TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

170

THE CITY OF CHICAGO, PLAINTIFF IN ERROR,

vs.

[illegible] V. CRERIE.

IN ERROR TO THE CIRCUIT COURT OF THE UNITED STATES FOR THE [illegible] DISTRICT OF ILLINOIS.

SUPREME COURT OF THE UNITED STATES.

No. 384.

THE CITY OF CHICAGO, PLAINTIFF IN ERROR,

vs.

SAMUEL Y. GREER.

IN ERROR TO THE CIRCUIT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF ILLINOIS.

INDEX.

	Original.	Print.
Præcipe	2	1
Bond for costs	3	1
Summons	4	2
Declaration	6	3
Plea	18	7
Jury impanneled	19	7
Hearing continued	19	7
Hearing continued	20	8
Verdict	21	8
Motion for a new trial heard and taken under advisement	21	8
Motion overruled and judgment	22	8
Bill of exceptions	24	9
Deposition of William Raster	25	9
Proposal of Greer	25	10
Advertisement	26	10
Railroad receipts	30	12
Telegram	43	17
Deposition of Samuel Greer	74	31
Deposition of John W. Reagan	99	41
Deposition of Joseph Parry	111	45
Deposition of George Kurtz	122	49
Deposition of Joseph Pigeon	134	52
Deposition of Edward Schmidt	145	55
Deposition of Albert Forepaugh	155	59
Deposition of U. P. Harris	161	60
Deposition of E. S. Chesborough	183	70
Deposition of Thomas B. Brown	190	73

	Original.	Print.
Deposition of Lemuel Richards	217	85
Deposition of Wardell Guthrie	227	90
Deposition of D. C. Cregier	235	93
Deposition of E P. Ward	242	96
Deposition of A. D. Titsworth	252	101
Deposition of William James	253	101
Deposition of Alexander McMonigal	264	106
Deposition of Levi Forest	278	112
Deposition of F. W. Taplan	286	116
Deposition of Robert A. Williams	290	118
Deposition of Leo Myers	308	122
Deposition of U. P. Harris, recalled	319	127
Deposition of Charles E. Roberts	321	128
Deposition of F. C. Brown	324	129
Charge to the jury	332	133
Appeal bond	348	139
Clerk's certificate	350	140
Writ of error	351	140
Citation	353	140

1 Pleas in the circuit court of the United States for the northeren district of Illinois, held at the United States court-rooms in the city of Chicago, in the district aforesaid, before the Hon. Thomas Drummond, district judge of said district, and, in the absence, pro tempore, of the Hon. David Davis, one of the justices of the Supreme Court of the United States, sole judge of said circuit court, on Tuesday, the seventeenth day of March, in the adjourned March term of said court, in the year of our Lord one thousand eight hundred and sixty-eight, and of our independence the ninety-second year.

WM. H. BRADLY, *Clerk.*

SAMUEL Y. GREER *vs.* THE CITY OF CHICAGO. } Northeren district of Illinois.

Be it remembered that on the nineteenth day of November, A. D. 1867, came Samuel Y. Greer, plaintiff, by Buell & Adams, his attorneys, and filed in the office of the clerk of the circuit court of the United
2 States for the northeren district of Illinois, at Chicago, in said district, his præcipe for a writ of summons against the city of Chicago, defendant, and also at the same time filed his bond for costs in said entitled cause; which said præcipe and bond are in the words and figures following, to wit:

Præcipe.

UNITED STATES OF AMERICA, *Northeren District of Illinois, ss:*

In circuit court.

SAMUEL Y. GREER *vs.* THE CITY OF CHICAGO. } Assumpsit.

Please issue a summons for the defendant in the above-entitled suit, returnable to the December term, 1867, of the circuit court, in an action of assumpsit; damages 30,000$.

Respectfully,

BUELL & ADAMS,
Pl'ff's Att'ys.

WM. H. BRADLEY, Esq., *Clerk*, &c.

Endorsed: Filed Nov. 19, 1867.

WM. H. BRADLEY, *Clk.*

3 *Bond for costs.*

UNITED STATES OF AMERICA, *Northeren District of Illinois, ss:*

Circuit court, December term, A. D. 1867.

SAMUEL Y. GREER *vs.* THE CITY OF CHICAGO. } In

I enter myself security for costs in this cause, and promise to pay all costs which may accrue to the opposite party in this action, or to any

of the officers of this court, and, in default of payment by the plaintiff of any costs ordered or adjudged to be paid by him, hereby agree and stipulate that execution may issue against my property for any costs taxed against him.

Dated this 19th day of November, A. D. 1867.

H. A. KAUFMANN.
FRANCIS ADAMS.

Endorsed: Filed Nov. 19th, A. D. 1867.

WM. H. BRADLEY, *Clerk.*

On the same day, to wit, the 19th day of November, A. D. 1867, a writ of summons issued out of said clerk's office against said defendant in said entitled cause; which said summons, together with the return
4 of the marshal thereon, is in the words and figures following, to wit:

Summons.

CIRCUIT COURT OF THE UNITED STATES OF AMERICA,
Northeren District of Illinois, ss:

The United States of America to the marshal of the northeren district of Illinois, greeting:

We command you that you summon the city of Chicago, if it shall be found in your district, to be and appear before our judges of our circuit court of the United States for the northeren district of Illinois, at the next term thereof, to be holden in Chicago, in the district aforesaid, on the third Monday of December next, to answer unto Samuel Y. Greer, in a plea of trespass on the case upon promises, to his damage, as he allegis, of thirty thousand dollars, and have you then and there this writ. Witness the Hon. Salmon P. Chase, Chief Justice of the Supreme Court of the United States of America, at Chicago aforesaid, this 19th day of November, in the year of our Lord one thousand eight hundred and sixty-seven, and of our independence the 92nd year.

[SEAL.] WM. H. BRADLEY, *Clerk.*

5 NORTHEREN DISTRICT OF ILLINOIS, *ss:*

Know all men by these presents, that I have appointed and, by these presents, do appoint Spencer B. Webb my true and lawful deputy to execute the annexed writ, (Samuel Y. Greer vs. the city of Chicago,) and to make true return thereon, according to law.

J. R. JONES, [SEAL.]
United States Marshal of the Northeren of Illinois.

I have executed the writ hereto attached by reading same to, and in the presence and hearing of, and delivering a true copy thereof to John B. Rice, the mayor of the city of Chicago, as such mayor, on the 2nd day of December, A. D. 1867.

J. R. JONES,
United States Marshal.
By S. B. WEBB,
Special Deputy.

Spencer B. Webb, being first duly sworn, deposes and says that he served the writ hereto attached as stated in the foregoing return.

SPENCER B. WEBB.

Subscribed & sworn to before me this 16th day of December, A. D. 1867.

P. A. HOYNE,
U. S. Com's. N. D. Ill.

Endorsed: Filed Jan'y 6th, A. D. 1868.
WM. H. BRADLEY, *Clerk.*

On this day, to wit, the 9th day of December, A. D. 1867, came
6 said plaintiff, by his attorneys, and filed in said clerk's office his declaration in said entitled cause; which said declaration is in the words and figures following, to wit:

Declaration.

UNITED STATES OF AMERICA, *Northeren District of Illinois, ss:*

In the circuit court of the United States for said district—December term, A. D. 1867.

Samuel Y. Greer, who is a citizen and resident of the State of Pennsylvania, plaintiff in this suit, complains of the city of Chicago, which is a citizen of the State of Illinois, defendant in this suit, which has been summoned to answer the plaintiff in a plea of trespass on the case on promises; for that whereas heretofore, to wit, on the 26th day of July, A. D. 1867, to wit, at said district, in consideration that the plaintiff, at the special instance and request of the defendant, would manufacture and furnish to the defendant certain goods and chattels, to wit: Thirteen thousand feet of leather hose, two and one-half or three inches
7 in diameter, made from extra heavy oak-tanned leather, Philadelphia hides, (not less than twenty-one or twenty-two pounds to side,) double copper rivets, in fifty feet section; three straps or loops and ring for hoisting, &c.; two hundred and sixty pairs of screws coupling, Chicago standard, to weigh five pounds nine and one-half ounces per set, fastened with three rivets; said hose to be testted in a fair and impartial manner, and made to stand a pressure of two hundred pounds to the square inch, and to be finished by the first day of September, A. D. 1867; the said hose to conform to a certain description of hose contained in a certain printed schedule, and which was in substance as follows, to wit: "Thirteen thousand feet of double-rivitted hose, copper rivits, Philadelphia or Baltimore No. one oak-tanned leather hose for steam fire-engines, with two and one-half inch couplings, the stock to average from twenty-one to twenty-two pounds per side, and must be made to stand a pressure of two hundred pounds to the square inch; each section must be fitted with three loops and hoisting rings, the couplings to weigh five pounds nine and one-half ounces
8 per set; the tail-piece to be ten inches long, and the ring two inches wide, to be fastened with three rivets," at and for a certain price, to wit, the sum of one and $\frac{70}{100}$ dollars per foot of said hose, and would deliver the said hose at the depot in the city of Chicago, in said district, to be tested in said city by the first day of September, A. D. 1867. The said defendant undertook, and then and there faithfully promised the said plaintiff to accept the said hose of the plaintiff, when so manufactured and furnished, and pay him for the same the price aforesaid, by draft on New York or Philadelphia, when the same

should be delivered and tested satisfactorily to said defendant; and the plaintiff avers that afterward, to wit, on the day and year first aforesaid, at Philadelphia, to wit, at said district, he did manufacture and make the said hose at and for the said price, to wit, the sum of one and $\frac{70}{100}$ dollars per foot, amounting, in all, to the sum of, to wit, twenty-two thousand and one hundred dollars. And afterwards, to wit, on the 30th day of August, 1867, to wit, at the depot in said city of Chicago, to wit, in said district, was ready and willing, and then and there
9 offered to deliver the said hose to the defendant at the said depot, and to allow the defendant to test the same, and requested the defendant to accept the same, of all which said premises the defendant then and there had notice. Yet this defendant, not regarding its said promise and undertaking, but contriving and intending to injure the plaintiff in this behalf, did not, nor would there, or at any other time, accept the said hose of the plaintiff, or pay him the said price therefor, or any part thereof, but so to do hath hitherto wholly neglected and refused, and still refuses, &c.

2nd count. And whereas, also, heretofore, to wit, on the 26th day of July, A. D. 1867, to wit, at said district, in consideration that the plaintiff, at the special instance and request of the defendant, would manufacture and furnish to the defendant certain other goods and chattels, to wit, thirteen thousand feet of leather hose, two and one-half or three inches in diameter, made from extra heavy oak-tanned leather, Philadelphia hides, not less than twenty-one or twenty-two pairs to side,
10 double copper rivets, in fifty-feet section; three straps or loops and ring for hoisting, &c.; two hundred and sixty pounds of screw couplings, Chicago standard, to weigh five pounds nine and one-half inches per set, fastened with three rivets; said hose to be tested in a fair and impartial manner, and to be made to stand a pressure of two hundred pounds to the square inch, and to be finished by the first day of September, 1867; the said hose to conform to a certain printed schedule, which was and is in substance as follows, to wit:

"CHICAGO, *July 15th*, 1867.

"Sealed proposals will be received at the fire marshal's office until the 25th day of July, 1867, for thirteen thousand (13,000) feet of double-rivitted copper rivits, Philadelphia or Baltimore No. 1 oak-tanned leather hose for steam fire-engines, with two-and-one-half-inch couplings, the stock to average from twenty-one to twenty-two pounds per side, and must be warranted to stand a pressure of two hundred pounds to the
11 square inch; each section must be fitted with three loops and hoisting rings; the coupling to weigh five pounds, nine and one-half inches per set; the tail-piece to be ten inches long, and the ring two inches wide, to be fastened with three rivets; the hose to be delivered in Chicago, and tested here by September 1st, 1867;" at and for a certain price, to wit, the sum of one and $\frac{70}{100}$ dollars per foot of said hose; the said defendant undertook, and then and there faithfully promised the said plaintiff to accept the said chattels of the plaintiff when so manufactured and furnished, and pay him for the same the price aforesaid when the same should be delivered and tested satisfactorily to said defendant; and the plaintiff avers that afterward, to wit, on the 27th day of July, 1867, at Philadelphia, to wit, at said district, he did manufacture and make the said chattels at and for the said price, to wit, at and for the sum of one and $\frac{70}{100}$ dollars per foot of said hose, amounting in all to the sum of, to wit, twenty-two thousand and one hundred dollars, and afterwards, to wit, on the 30th day of

August, 1867, to wit, in the said district, was ready and willing to deliver the same to the defendant at the said depot, to wit, at Chicago
12 aforesaid, and to allow the defendant to test the same, of all which said premises the defendant then and there had notice.

Yet the defendant, not regarding its said promise and undertaking, but contriving and intending to injure the plaintiff in this behalf, to wit, at the said last-mentioned time, to wit, at the said district, notified the plaintiff not to deliver the said goods and chattels to the defendant, and then and there prevented the plaintiff from delivering the said goods and chattels, and failed and refused and from thence hitherto hath failed and refused and still refuses to accept the said goods and chattels of the plaintiff, or pay him the said price therefor, or any part thereof, but so to do hath hitherto wholly neglected and refused, and still refuses, &c.

And whereas, also, heretofore, to wit, on the 26th day of July, A. D. 1867, at Chicago, to wit, at said district, in consideration that the plaintiff, at the special instance and request of the defendant, would manufacture and furnish to the defendant certain other goods and chattels, to wit, thirteen thousand feet of leather hose, two and one-half or three inches in diameter, made from extra heavy oak-tanned leather, Phila-
13 delphia hides, not less than twenty-one or twenty-two pounds to side; double copper rivets, in fifty-feet section three straps or loops and ring for hoisting, &c.; two hundred and sixty pairs of screw coupling, Chicago standard, to weigh five pounds nine and one-half inches per set, fastened with three rivets; said hose to be tested in a fair and impartial manner, and to be made to stand a pressure of two hundred pounds to the square inch, and to be finished by the first day of September, 1867; the said hose to conform to a certain printed schedule, which was and is in substance as follows, to wit:

"CHICAGO, *July 15th*, 1867.

"Sealed proposals will be received at the fire marshal's office until the 25th day of July, 1867, for thirteen thousand (13,000,) feet of double rivetted, copper rivets, Philadelphia or Baltimore No. 1. oak-tanned leather hose, for steam fire-engines, with two-and-one-half-inch coupling; the stock to average from twenty-one to twenty-two pound per side, and must be warranted to stand a pressure of two hundred pounds to the square inch; each section must be fitted with three loops and
14 hoisting rings; the coupling to weigh five pounds nine and one-half ounces per set; the tail-piece to be two inches long, and the ring two inches wide, to be fastened with three rivets; the hose to be delivered in Chicago and tested here by September 1st, 1867."

At and for a certain price, to wit, the sum of one and $\frac{70}{100}$ dollars per foot of hose, the said defendant undertook and then and there faithfully promised the said plaintiff to accept the said chattels of the said plaintiff when so manufactured and furnished, and pay him for the same the price aforesaid, when the same should be delivered and tested satisfactorily to said defendant. And the plaintiff avers that he intended and was willing and, but for the utter and absolute refusal of the defendant, as hereinafter alleged, to perform its part of the aforesaid contract or agreement, would have been ready to fully and faithfully perform his part of the said contract or agreement. Yet the said defendant, not regarding its said promise and undertaking, but contriving and craftily and subtly intending to deceive and defraud the plaintiff in this behalf, to wit, on the 30th day of August, 1867, to wit, at the
15 district aforesaid, expressly notified and informed the plaintiff that it, the said defendant, would not comply with its said agree-

ment or contract, and would not accept the said goods and chattels of the plaintiff, and also notified the plaintiff not to send or deliver the same to the defendant, and did not nor would then, or at any other time, accept the said chattels of the said plaintiff, or pay him the said price therefor, or any part thereof, but so to do hath hitherto wholly neglected and refused, and still refuses, &c.

And whereas, also, the said defendant heretofore, to wit, on the first day of September, in the year of our Lord one thousand eight hundred and sixty-seven, to wit, at the said district, became and was indebted to the said plaintiff in the sum of ten thousand dollars, lawful money of the United States, for divers other goods, chattels, wares, and merchandise, by the said plaintiff before that time sold and delivered to the said defendant, and at the special instance and request of the said defendant, and being so indebted to the said plaintiff, the said de-
16 fendant, in consideration thereof, afterwards, to wit, on the same day and year and at the place aforesaid, undertook, and then and there faithfully promised the said plaintiff well and truly to pay unto the said plaintiff the said sum of money last mentioned, when the said defendant should be thereunto afterwards requested. And whereas, also, the said defendant afterwards, to wit, on the same day and year and at the place aforesaid, in consideration that the said plaintiff had before that time, at the like special instance and request of the said defendant, sold and delivered to the said defendant divers other goods, chattels, wares, and merchandise of the said plaintiff, the said defendant then and there undertook and faithfully promised the said plaintiff that the said defendant would well and truly pay unto the said plaintiff so much money as the last aforesaid goods, chattels, wares, and merchandise, at the time of the sale and delivery thereof, were reasonably worth, when the said defendant should be thereunto afterwards requested, and the said plaintiff avers that the said goods, chattels, wares and merchandise last mentioned, at the time of the sale and delivery
17 thereof, were reasonably worth the further sum of ten thousand dollars of like lawful money aforesaid, to wit, at the place aforesaid, whereof the said defendant afterwards, to wit, on the same day and year and at the place aforesaid, had notice. Nevertheless, the said defendant, although often requested, has not yet paid the said several sums of money above mentioned, or any or either of them, or any part thereof, but to pay the same or any part thereof to the said plaintiff, the said defendant has hitherto altogether refused, and still refuses, to the damage of the said plaintiff of thirty thousand dollars, and therefore the said plaintiff brings suit, &c.

BUELL & ADAMS,
Plaintiff's Att'ys.

Endorsed: Filed Dec. 9, 1867.

WM. H. BRADLEY, *Clk.*

On the same day, to wit, the 9th day of December, A. D. 1867, came said defendant, by its attorneys, and filed, in said clerk's office, its plea in said entitled cause; which said plea is in the words and figures following, to wit:

18 *Plea.*

UNITED STATES OF AMERICA, *Northeren District of Illinois:*

In the circuit court for northeren dist. of Illinois,

THE CITY OF CHICAGO
ats.
SAMUEL Y. GREER.

And the s'd def't, by H. Davis, its att'y, comes & defends the wrong & injury, when, &c., and says that it did not undertake or promise in manner & form as the said pl'ff has above thereof complained against him, and of this the said defendant puts itself upon the country.

H. DAVIS, *Att'y for Def't.*

Endorsed: Filed Dec. 9th, 1867.

WM. H. BRADLEY, *Clk.*

On this day, to wit, the 13th day of February, A. D. 1868, in the December term, A. D. 1867, of said court, in the record of the proceedings thereof in said entitled cause, is the following entry, to wit:

19 *Jury empanneled.*

SAMUEL Y. GREER
vs.
THE CITY OF CHICAGO. } Assumpsit.

Now come the parties, by their attorneys, and upon issue joined thereupon come a jury of good and lawful men, to wit: J. R. Walker, S. E. Cleaveland, William Mitchell, James Allison, L. Burley, B. F. Burr, E. H. Brookner, Robert Meeder, W. M. Brown, Isaac Williams, Morgan L. Keith, and Warren Hill, who were all duly elected, tried, and sworn well and duly to try said issue, and on motion of the plaintiff, by his attorney, leave is given him to amend his declaration herein, and after hearing a part of the evidence the hour of adjournment having arrived, the further trial of the cause is postponed until to-morrow morning.

On this day, to wit, the 14th day [day] of February, A. D. 1868, in the December term, A. D. 1867, of said court, in the record of the proceedings thereof in said-entitled cause, is the following entry, to wit:

Hearing continued.

SAMUEL Y. GREER
vs
THE CITY OF CHICAGO. } Assumpsit.

20 Now come again the parties by their attorneys, and now come also the jury in this behalf, empanniled and sworn, and after hearing the concluding evidence the hour of adjournment having arrived, the further trial of the cause is postponed until to-morrow morning.

Hearing continued.

On this day, to wit, the 15th day of February, A. D. 1868, in the December term, A. D. 1867, of said court, in the records of the proceedings thereof in said-entitled cause, is the following entry, to wit:

SAMUEL Y. GREER
vs.
THE CITY OF CHICAGO. } Assumpsit.

Now come again the parties, by their attorneys, and now come also the jury in this behalf empaniled and sworn, and after hearing the argument of counsel and receiving the instructions of the court, the jury retire to reconsider of their verdict, and by agreement of the parties, by their attorneys, the jury, when they shall have agreed upon a verdict, may sign and seal the same and deliver it to the clerk and disperse.

21 On this day, to wit, the 17th day of February, A. D, 1868, in the December term, A. D. 1867, of said court, in the record of the proceedings thereof in said entitled cause, is the following, to wit:

Verdict.

SAMUEL Y. GREER
vs.
THE CITY OF CHICAGO. } Assumpsit.

The jury in this behalf empanniled and sworn, this day returned into court their sealed verdict, wherein they say, We, the jury, find the issue for the plaintiff, and assess his damages to the sum of eleven thousand and ninety-three dollars and fifty cents. And thereupon the defendant, by its attorney, moves the court for a new trial herein.

On this day, to wit, the 24th day of February, A. D. 1868, in the December term, A. D. 1867, of said court, in the record of the proceedings thereof in said entitled cause, is the following, to wit:

No. for a new trial heard & taken under advisement.

SAMUEL Y. GREER
vs.
THE CITY OF CHICAGO. } Assumpsit.

22 Now come the parties, by their attorneys, and now comes on to be heard the motion of the defendant heretofore entered for a new trial of this cause, and after hearing the arguments of counsel, the court take the same under advisement.

On this day, to wit, the 17th day of March, in the adjourned March term, A. D. 1868, of said court, in the record of the proceedings thereof in said entitled cause, is the following entry, to wit:

Mo. overruled & judgment.

SAMUEL Y. GREER
vs.
THE CITY OF CHICAGO. } Assumpsit.

The court having considered and being now fully advised upon the motion of the defendant for a new trial of this cause overrules the same. It is thereupon considered and adjudged by the court that the said

plaintiff do have and recover of the said defendant the said sum of eleven thousand and ninety-three dollars and fifty cents, the damages so as aforesaid assessed, together with his costs and charges by him about his suit in this behalf expended, amounting to the sum of one hundred ten dollars and forty-five cents, and that he have execution therefor.

23

24 UNITED STATES OF AMERICA,
Northern District of Illinois, ss:

In the circuit court of the United States, northern district of Illinois.—February term, 1868.

SAMUEL Y. GREER
v.
THE CITY OF CHICAGO.

On the trial of this cause the following exceptions were made and allowed, to wit:

In the circuit court of the United States, northern district of Illinois.

SAMUEL Y. GREER
v.
THE CITY OF CHICAGO. } Bill of exceptions.

Be it remembered, that on the trial of this cause at the February term, A. D. 1868, of the said circuit court of the United States for the northern district of Illinois, before a jury, Hon. Thomas Drummond, presiding as judge of said court, the plaintiff, to maintain the issue upon his part, introduced the following testimony:

25 *Wm. Raster deposition.*

Wm. Raster, a witness called on behalf of the pl'ff, having been duly sworn, was examined in chief by Mr. Adams, and testified as follows:

Q. Where do you reside?
A. Philadelphia.
Q. What is your business?
A. Hose maker.
Q. How long have you been engaged in that business?
A. About ten years.
Q. Where are you now engaged, and in what capacity?
A. Foreman for Samuel Y. Greer, of Philadelphia.
Q. How long have you been engaged as such?
A. About four years.
Q. Were you present in the city of Chicago when bids were made to the board of police commissioners for the contract for thirteen thousand feet of hose?
A. Yes, sir.
Q. Did you offer a bid for Mr. Greer?
A. Yes, sir.
Q. Is that the proposal or advertisement? (Showing witness a paper.)
A. Yes, sir.
Which said paper is as follows:

Proposal of Greer.

PHILAD., *July 22nd*, 1867.

U. P. HARRIS, Esq., *Fire Marshal:*

26 D'R SIR: I do hereby offer to furnish your fire department with thirteen thousand (13,000 ft.) feet of leather hose, 2½ or 3 inch in dia'r, made from extra heavy oak-tanned leather, (Philad'a hide,) not less than 21 to 22 lbs. to side, double copper rivet, in 50 ft. section, 3 straps or loops & ring for hoisting, &c.; 260 prs of screw coupling, Chicago standard, to weigh 5 lbs. 9½ oz. per sett, fastened with three rivets, *a* $1 70 one dollar & seventy cents per foot, complete; said hose to be tested in fair & impartial manner, & to be made to stand (200 lbs.) two hundred lbs. pressure to sq. inch; said hose to be finished by Sept. 1st, 1867; said hose to be delivered in Chicago depot; said hose to conform to printed schedule. Terms cash, after said hose is tested satisfactory. Draft New York or Philad.

Very respectfully,

SAM'L Y. GREER,
520 *North St., Philed.*

Advertisement.—Hose wanted.

CHICAGO, *July* 15, 1867.

Sealed proposals will be received at the fire marshal's office until the 25th day of July, 1867, for thirteen thousand (13,000) feet of double-rivetted, copper rivets, Philadelphia or Baltimore No. 1 oak-tanned leather hose, for steam fire-engines, with 2½-inch couplings. The stock to average from 21 to 22 pounds per side, and must be warrented to stand a pressure of two hundred pounds to the square inch.

27 Each section must be fitted with three loops and hoisting rings; the couplings to weigh 5 pounds 9½ ounces per set; the tail-piece to be two inches long, and the ring two inches wide; to be fastened with three rivets; the hose to be delivered in Chicago, and tested here by September 1, 1867.

U. P. HARRIS,
Fire Marshal.

(Endorsed:) Filed & opened July 26, 1'67. Accepted July 27, 1867.
E. P. WARD, *Sec'y.*

Q. State what happened at that time.

A. I came to Chicago; I came to Chicago about the 24th of July. I handed the proposal of Mr. Greer to Mr. Titsworth on the 24th of July. The next day, the proposals, according to the advertisement of the board, were to be opened, and they were opened, and delayed until the next day before they awarded the contract, and immediately after they awarded me the contract, I started for Philadelphia by the next train, and commenced immediately to make up the hose for the city of Chicago.

Q. Where were you at the awarding of the contracts; was you there at the meeting of the board?

A. Yes, sir.

Q. Personally?

A. Yes, sir.

Q. State what transpired there.

28 A. They made a kind of an examination of all the men that had any proposals, and in the course of the conversation, I was asked if I could promise the hose by the first of September. I told them I could not. They asked me how fast I could furnish them with it. I told them I thought I could furnish about two thousand feet a week.

Q. Was that all the conversation about that; what was said to you there, if anything?

A. They didn't say anything there to me there. I was put out in the other room, and they held a meeting by themselves, and afterwards they came out and told me the contract had been awarded to Mr. Greer.

Q. Did you have any other conversation with the commissioners at any time before you left?

A. Mr. Titsworth came out into the entry, after the contracts were awarded, and said he felt as sorry as anybody else, as he had a particular friend, Mr. Gates, whom he would like to have seen got the contract.

Q. Did any of the commissioners say anything to you with regard to the time you were to furnish the hose?

A. Mr. Titsworth said one day he wanted I should furnish it as fast as possible.

Q. How long were you from the time you got to Chicago until you started back to Philadelphia?

A. I started back on the 27th, I believe. I got there on the 29th.

29 Q. After you got to Philadelphia, state what, if anything, Mr, Greer did under this contract.

A. The commissioners gave me a sample of the coupling to take along to make this hose by. When I arrived in Philadelphia, I measured the coupling. I found it would take a larger-sized hose than what their advertisement called for, (they advertised for 2½-inch hose,) to fit this coupling that they sent for a sample, and the leather we had in the shop—most all of—it would not cut that wide hose; and we immediately went to work and selected a grade of leather which kept us a great while to do. It is very hard to hunt leather for hose so wide, &c. We went to Messrs. Biggs & Bates, tanners, in Philadelphia, and hunted over the heaviest and primest size we could find to make this hose.

Q. Describe what sort of leather that was that you selected to make the hose with.

A. It was the best Philadelphia oak tan slaughtered leather, tanned expressly for hose purposes.

Q. How much did that average per side?

A. About twenty-four pounds to the side.

Q. Go on and state what you did as to manufacturing.

A. As soon as we could get the leather from the tanner, we went immediately and cut it up for this size hose for the Chicago contract. It being very bad weather, rainy, we could not get this leather dry to make this hose first as fast as we thought, but we made it as fast as we could under the circumstances.

30 Q. How much hose did you manufacture?

A. Manufactured and sent to the city of Chicago twenty-one hundred and fifty feet, (2,150.)

Q. Do you recollect the dates at which these 2,150 feet of hose was sent?

A. No, sir.

Q. Look at these receipts, (showing paper to witness,) and refesh your memory. State the dates. Are those the railroad receipts for the hose?

A. Yes, sir.

Which said receipts are as follows:

R. R. Receipts.

[Form No. 64.]

(This receipt, properly filled up by the shipper, must accompany the freight.)

PENNSYLVANIA RAILROAD COMPANY'S FREIGHT STATION,
Corner of Thirteenth and Market streets.

☞ NOTICE.—Persons desiring information respecting goods shipped by this company, to be forwarded to points beyond Pittsburg, will please address the consignee at Pittsburg, instead of shippers at Philadelphia. When goods for more than one mark are comprised in one dray-load, separate receipts must be sent for each.

Goods intended to go through by railroad beyond Pittsburg, must be clearly and plainly marked on the packages, "Through by railroad."

Through and local freight will not be received after 6 o'clock p. m.

31 Local freight must have the name of the station at which it is to be delivered plainly marked on the packages, and on this receipt.

Dray entrances: Through freight, 13th & Market sts.; local freight, 15th & Market sts.

Received, Philadelphia, Aug. 13th, 1867, of Samuel Y. Greer, the following articles, contents and condition unknown, to be carried and delivered upon the terms and according to the agreement as specified on the back of this receipt.

Marked—
U. P. Harris,
Chicago, Ill.

Number and description of packages:
One box, 13 sections of leather fire hose. P. R. R.

Pennsylvania Railroad Company:

It is agreed and is part of the consideration of this contract:

1. That all goods received for transportation shall be properly packed, and distinctly marked with the name of the consignee and the station where and to whom consigned.

2. That the Pennsylvania Railroad Company shall not be responsible for the melting of ice, decay or injury to perishable articles from heat or cold, or for any loss, injury, or damage from the dangers of rail-
32 road transportation, explosions, fire in stores, depots, or in transit, leakage, breakage, theft, or from any cause whatever, unless the same be proved to have occurred from the fraud or gross negligence of said company or its servants; nor liable for any damage to glass or fragile articles, unless herein specially insured, and when goods are intrusted to any other company or person, (which said Pennsylvania Railroad Company is hereby authorized to do,) such company or person so selected shall be regarded exclusively as the agent of the owner, and as such alone liable; and the Pennsylvania Railroad Company shall not in any event be responsible for the negligence or non-performance of any such company or person; nor in any event shall the Pennsylvania Railroad Company be liable for any loss or damage unless the claim therefor shall be presented to them in writing at the office of said company in Philadelphia, within five days after the time when said property has or ought to

have been delivered. The goods transported shall be subject to a lien, and may also be retained for all arrearages of freight and charges due on other goods by the same consignee or owner.

Freight to be paid upon the weight of goods as ascertained by the company's scales.

3. Storage will be charged on goods allowed to remain over twenty-four hours in the depots or warehouses of said company.

4. Articles coopered will be charged therewith.

33 5. Gunpowder, gun-cotton, friction matches, and like combustibles are not received or transported under this contract.

6. Goods at private turnouts shall be at the owner's risk until attached to, and after they are detached from the train.

7. All articles will be at the risk of the owners at the several "way stations" and platforms where depot buildings have not been established by the company from the moment such articles are delivered from the cars as directed or marked.

8. Freight carried by this company must be removed from the station at Pittsburg during business hours on the day of its arrival, or it may be stored at owner's risk and expense, and in the event of its destruction or damage from any cause while in the depot of the company, it is agreed that said company shall not be liable to pay any damages therefor.

9. The responsibility of the company under this bill of lading to commence upon the shipment of the goods from this station, and to terminate when unloaded from the cars.

☞ Machinery, furniture, stoves, agricultural implements and all similar articles, when not packed in boxes, will always be at owner's risk of breakage from handling or any other cause.

[Form No. 64.]

(This receipt, properly filled up by the shipper, must accompany the freight.)

34 PENNSYLVANIA RAILROAD COMPANY'S FREIGHT STATION,
Corner of Thirteenth and Market streets.

☞ NOTICE.—Persons desiring information respecting goods shipped by this company, to be forwarded to points beyond Pittsburg, will please address the consignee at Pittsburg, instead of shippers at Philadelphia.

Conditions.

Freight offered for transportation must be in good order, properly packed, and distinctly marked; otherwise the company will not be responsible for loss of goods or wrong delivery.

When goods for more than one mark are comprised in one dray-load, separate receipts must be sent for each.

☞ Freight carried by this company must be removed from the station at Pittsburg during business hours on the day of its arrival, or it will be stored at owner's risk and expense, and in the event of its destruction or damage from any cause while in the depot of the company, it is agreed that said company shall not be liable to pay any damages therefor.

It is agreed and is part of the consideration of this contract, that the company will not be responsible for leakage of liquids, breakage of glass or queensware, the injury or breakage of looking-glasses, glass show-cases, picture-frames, stoves, castings, or hollow-ware, nor for injury to the hidden contents of packages, nor for the loss in weight or otherwise

of grain and coffee in bags, or rice in tierces; nor for the decay of perishable articles; nor for damages arising to any articles carried, from
35 the effects of heat or cold; nor for the loss of nuts in bags; or of lemons or oranges in boxes, unless covered by canvass; or loss or damage to goods occasioned by providential causes, or by fire from any cause whatever while in transit or at stations, unless the additional charge of five cents per one hundred pounds be added to the present rates, in consideration of the company insuring the goods safe to Pittsburg, against all hazard, by instructions of owner or shipper before shipping freight to be paid upon the weight of goods, as ascertained by the company's scales at Philadelphia.

☞ The company not responsible for accidents or delays from unavoidable causes. The responsibility of this company as a common-carrier, under this receipt, to commence upon the removal of the goods from the depot at Philadelphia in the cars of the company, and to terminate when unloaded from the cars at Pittsburg, they being liable only for the rate of freight per 100 pounds when forwarded through by railroad to points beyond Pittsburg, at a fixed rate.

Goods intended to go through by railroad, beyond Pittsburg, must be clearly and plainly marked on the packages, "Through by railroad."

N. B.—Shippers are requested to send written instructions, when it is intended that the company shall insure the goods safe to Pittsburg.

Through and local freight will not be received after 6 o'clock p. m.

Local freight must have the name of the station at which it is
36 to be delivered plainly marked on the packages and on this receipt.

☞ Gunpowder and friction matches not carried.

Dray entrances: Through freight on Thirteenth street; local freight on Juniper street.

Received, Philadelphia, Aug. 17, 1867, of S. Y. Greer, the following articles (contents unknown) to forward, subject to the above conditions:

Marked,
U. P. Harris,
Fire Marshal,
Chicago, Ill.

Use no hooks.
Number and description of packages:
3 bales hose.
Empire line.
Livingston.

[Form No. 64.]

(This receipt, properly filled up by the shipper, must accompany the freight.)

PENNSYLVANIA RAIL ROAD COMPANY'S FREIGHT STATION,
Corner of Thirteenth and Market streets.

☞ NOTICE.—Persons desiring information respecting goods shipped by this company, to be forwarded to points beyond Pittsburg, will please address the consignee at Pittsburg, instead of shippers at Philadelphia.

Conditions.

Freight offered for transportation must be in good order, prop-
37 erly packed, and distinctly marked, otherwise the company will not be responsible for loss of goods or wrong delivery.

When goods for more than one mark are comprised in one dray-load, separate receipts must be sent for each.

☞ Freight carried by this company must be removed from the station at Pittsburg during business hours on the day of its arrival, or it will be stored at owner's risk and expenses and in the event of its destruction or damage from any cause while in the depot of the company, it is agreed that said company shall not be liable to pay any damages therefor.

It is agreed and is part of the consideration of this contract, that the company will not be responsible for leakage of liquids, breakage of glass or queensware, the injury or breakage of looking-glasses, glass show-cases, picture-frames, stoves, castings, or hollow-ware; nor for injury to the hidden contents of packages; nor for the loss in weight or otherwise of grain and coffee in bags, or rice in tierces; nor for the decay of perishable articles; nor for damages arising to any articles carried, from the effects of heat or cold; nor for the loss of nuts in bags, or lemons or oranges in boxes, unless covered by canvass; or loss or damage to goods occasioned by providential causes; or by fire from any cause whatever, while in transit or at stations, unless the additional charge of five cents per one hundred pounds be added to the present rates, in consid-
38 eration of the company insuring the goods safe to Pittsburg, against all hazard, by instructions of owner or shipper before shipping.

Freight to be paid upon the weight of goods, as ascertained by the company's scales at Philadelphia.

☞ The company not responsible for accidents or delays from unavoidable causes. The responsibility of this company as a common-carrier under this receipt, to commence upon the removal of the goods from the depot at Philadelphia in the cars of the company, and to terminate when unloaded from the cars at Pittsburg; they being liable only for the rate of freight per 100 pounds when forwarded through by railroad to points beyond Pittsburg, at a fixed rate.

Goods intended to go through by railroad beyond Pittsburg, must be clearly and plainly marked on the packages, "Through by railroad."

N. B.—Shippers are requested to send written instructions when it is intended that the company shall insure the goods safe to Pittsburg.

Through and local freight will not be received after 6 o'clock p. m.

Local freight must have the name of the station at which it is to be delivered plainly marked on the packages and on this receipt.

☞ Gunpowder and friction matches not carried.

Dray entrances: Through freight on Thirteenth street; local freight on Juniper street.

39 Received, Philadelphia, Aug. 19, 1867, of S. Y. Greer, the following articles (contents unknown) to forward, subject to the above conditions:

Marked—
U. P. Harris,
Fire Marshal,
Empire line. Chicago, Ill.

Number and description of packages:
1 case of fire hose.

Livingston.

Use no hooks.

[Form No. 64.]

(This receipt, properly filled up by the shipper, must accompany the freight.)

PENNSYLVANIA RAILROAD COMPANY'S FREIGHT STATION,
Corner Thirteenth and Market streets.

☞ NOTICE.—Persons desiring information respecting goods shipped by this company, to be forwarded to points beyond Pittsburg, will please address the consignee at Pittsburg, instead of shippers at Philadelphia.

When goods for more than one mark are comprised in one dray-load, separate receipts must be sent for each.

Goods intended to go through by railroad beyond Pittsburg, must be clearly and plainly marked on the packages, "Through by railroad."

Through and local freight will not be received after 6 o'clock p. m.

40 Local freight must have the name of the station at which it is to be delivered plainly marked on the packages and on this receipt.

Dray entrances: Through freight, 13th & Market sts.; local freight, 15th & Market sts.

Received, Philadelphia, Aug. 24, 1867, of S. Y. Greer, the following articles (contents and conditions unknown) to be carried and delivered upon the terms, and according to the agreement as specified on the back of this receipt:

Marked—
U. P. Harris,
Fire Marshal,
Chicago, Ill.

Empire line.
Use no hooks.
Number and description of packages:
Two (2) bales of fire hose.
Livingston.

Pennsylvania Railroad Company.

It is agreed, and is part of the consideration of this contract:

1. That all goods received for transportation shall be properly packed and distinctly marked with the name of the consignee and the station where and to whom consigned.

41 2. That the Pennsylvania Railroad Company shall not be responsible for the melting of ice, decay or injury to perishable articles from heat or cold, or for any loss, injury, or damage from the dangers of railroad transportation, explosions, fire in stores, depots, or in transit, leakage, breakage, theft, or from any cause whatever, unless the same be proved to have occurred from the fraud or gross negligence of said company or its servants; nor liable for any damage to glass or fragile articles, unless herein specially insured. And when goods are intrusted to any other company or person, (which said Pennsylvania Railroad Company is hereby authorized to do,) such company or person so selected shall be regarded exclusively as the agent of the owner, and as such alone liable, and the Pennsylvania Railroad Company shall not, in any event, be responsible for the negligence or non-performance of any such company or person, nor in any event shall the Pennsylvania Railroad Company be liable for any loss or damage unless the claim therefor shall be presented to them in writing at the office of said company in Philadelphia, within five days after the time when said property has or ought to have been delivered. The goods transported shall be subject to a lien, and may also be retained for all arrearages of freight and charges due on other goods by the same consignee or owner.

Freight to be paid upon the weight of goods as ascertained by the company's scales.

42 3. Storage will be charged on goods allowed to remain over twenty-four hours in the depots or warehouses of said company.

4. Articles coopered will be charged therewith.

5. Gunpowder, gun-cotton, friction matches, and like combustibles are not received or transported under this contract.

6. Goods at private turnouts shall be at the owner's risk until attached to, and after they are detached from, the train.

7. All articles will be at the risk of the owners at the several "way stations" and platforms, where depot buildings have not been established by the company, from the moment such articles are delivered from the cars as directed or marked.

8. Freight carried by this company must be removed from the station at Pittsburg during business hours on the day of its arrival, or it may be stored at owner's risk and expense, and in the event of its destruction or damage from any cause while in the depot of the company, it is agreed that said company shall not be liable to pay any damages therefor.

9. The responsibility of the company under this bill of lading to commence upon the shipment of the goods from this station, and to terminate when unloaded from the cars.

☞ Machinery, furniture, stoves, agricultural impliments, and all similar articles, when not packed in boxes, will always be at owner's risk of breakage from handling or any other cause.

43 Q. Given you in Phladelphia?

A. Yes, sir.

Q. You sent the 2,150 feet of hose?

A. Yes, sir.

Q. Was that all you had manufactured?

A. No, sir; we had a thousand feet manufactured ready for sending, when we received a telegram to send no more hose.

Q. Look at that, (handing witness a paper.) Is that the telegraph despatch you received?

A. Yes. sir.

Counsel for pl'ff read telegram as follows:

Telegram.

THE WESTERN UNION TELEGRAPH COMPANY.

The rules of this company require that all messages received for transmission shall be written on the message blanks of the company under and subject to the conditions printed thereon; which conditions have been agreed to by the sender of the following message.

O. H. PALMER, *Sec'y*, 69.

J. H. WADE, *Pres't.*

Dated Chicago, Aug. 30, 1867.

Received at Ph'a. Aug. 30. 410.

To Sam'l Y. Greer, 520 N'th st. Ph'a:

Send no more hose. It does not nearly stand the contract test & will not be accepted. That which is here is subject to your order.

E. P. WARD, *Sec'y.*

26 ch. 412 paid.

44 Q. That hose that you did manufacture—that 2,150 feet that you sent to Chicago, and the remaining one thousand feet—state how it was manufactured as to the workmanship and materials, aside from the leather, which you have already described.

A. A side of leather cuts two strips, twenty-one inches through the back, the generally cut about an inch from the back to make that size hose. The belly and head part of the cattle is sold for offal; that is, we used nothing but what we called the heart of this leather, and it was made by workman that none of them had been at the trade less than five years, and some of them more than thirty-five years, working in the shop there for that period of time; and, in my judgment, I don't think it could have been made better.

Q. As to the specifications, the rivets, coupling, &c.?

A. In the making of our hose we gave it a very wide lap along the seam where it is riveted further than any other hose-maker, or any other hose that ever I seen. We gave it a wider lap for the purpose of making it stronger, and in consequence of that it takes a great many more rivets to the foot. Where you make a wide lap and you put rivets here and there, (illustrating,) it makes the rivets more in a foot; whereas if you put it here and there, (illustrating,) we don't consider that double-rivetted hose. This was made, I believe, thirty-one rivets to the foot; a
45 very wide lap, in our judgment, making it stronger than if they gave it a little lap.

Q. How were those rivets placed?

A. The rivets was placed the second row behind spaces between the rivets of the first row.

Q. What was the size of the coupling used?

A. About three inches.

Q. How did you happen to use three-inch coupling?

A. That was the size sent as a sample.

Q. How much did the coupling weigh that you used?

A. I could not say that; I didn't weigh them; I judge they weighed the contract weight. We had nothing to do with the making of the coupling.

Q. Do you recollect the specifications in the advertisement?

A. I can't say that I recollect that exactly.

Q. Recollect whether or not those were made according to the specifications?

A. Yes, sir.

Q. They were?

A. Yes, sir.

Q. What did you do with that—what else did you do besides manufacturing the hose; did you make any other preperation?

A. We had on hand, at the time we received that despatch, leather cut to make about seven thousand feet of hose, and we had alterations in the gas in the shop so that the men could work nights to send
46 the hose on faster, as that we thought would be the only trouble in getting it on fast enough; we didn't know anything about——

(Objected to as improper on the question of damages.)

Mr. ADAMS. I propose to show that about seven hundred sides were cut, making seven thousand feet of ten-and-a-half-inch hose; that it was impossible to use that leather for any other than that size of hose called ten-and-a-half-inch hose. Also, that ten-and-a-half-inch hose is a remarkable size in the United States, and not made except on special order; that Mr. Greer could not use such hose except for Chicago; that to cut it down to 9-inch hose would be a loss both of material and labor.

By the COURT. You can show that fact. I should think it was competent to show what was done in order to carry out the contract.

(To which ruling of the court the def's counsel then and there excepted.)

Q. You had about seven thousand feet cut down for ten-and-a-half-inch hose?

A. Yes, sir.

Q. What did you do with that?

A. After Mr. Greer came back from Chicago—the time he had been on here to see the commissioners about this contract—he came back and found out he could not do anything with them. We had to cut it down into nine-inch hose.

47 Q. State the reason for that.

A. Because there was no sale in the market for ten-and-a-half-inch hose, and there is sale for nine-inch hose; the most of our orders are for nine-inch hose; we had a large stock of leather on hand that we bought for this Chicago contract, and we could not go then and buy other leather to make nine-inch hose; so we had to cut that down to make nine-inch hose.

Q. You say the leather that you made ten-and-a-half-inch hose of weighed 24 pounds to the side?

A. Yes, sir.

Q. How many sides of such leather did it take to make seven thousand feet of ten-and-a-half-inch hose?

A. Seven hundred.

Q. How much was the leather worth per pound?

A. Fifty-five cents (55) in calculating the inspection and drainage.

Q. Recollect the total amount of cost?

A. No, sir.

Q. Did you estimate it?

A. No, sir.

Q. How many sides would it have taken in the first instance to make seven thousand feet of nine-inch hose?

A. About seven hundred sides of different size leather.

Q. About how many pounds?

A. Eighteen pounds.

Q. What would it cost?

48 A. Forty-seven cents at that time.

Q. When you cut the seven thousand feet down to nine-inch hose you had no more hose than if you had made it out of leather weighing eighteen pounds to the side?

A. No, sir.

Q. There was a loss in the difference in the cost of the leather?

A. Yes, sir.

Q. How long did it take you to cut down this leather from ten-and-a-half to nine-inch hose?

A. Seven weeks.

Q. How much was that labor worth?

A. Twenty-five dollars a week.

Q. Had you purchased the coupling?

A. Yes, sir; we had them all purchased.

Q. How many pairs?

A. I think two hundred and sixty.

Q. How much did you have left after manufacturing the thirty-one hundred and fifty feet of hose?

A. We had all left except what was on the thirty-one hundred and fifty feet.

Q. How many pairs?

A. (Witness referred to paper.) One hundred and ninety-seven pairs.

Q. How much were those coupling worth per pair?

A. Four dollars and seventy-five cents.

Q. Now state what those coupling were worth for other purposes,
49 except to be used on ten-and-a-half-inch hose. What were they worth to Greer for manufacturing purposes?

A. They were not worth anything at all, as they were a different standard from any other coupling [coupling] made there since I have been there. The only value, in my judgment, is as old brass.

Q. State how much they were worth per pound as old brass.

A. I judge about sixteen cents.

Q. In the market?

A. Yes, sir.

Q. Do you know—have you made an estimate of how much Mr. Greer's profit would have been per foot upon this hose?

A. Yes, sir; Mr. Greer and me, after I started from Philadelphia, made an estimate of what this hose would cost us a foot to manufacture and send it here, and it would cost a dollar and fifty cents a foot.

Q. So that your profit on each foot of hose would have been how much?

A. Twenty cents.

Q. State whether you ever saw any of the hose manufactured by Greer for the city of Chicago tested.

A. Yes, sir; after Mr. Greer came back to Philadelphia from Chicago; after he found out the commissioners would not have the hose, we had a trial of it on an Amoskeag steam fire-engine. The hose that we had ready to send to Chicago—the same make and kind of
50 leather, the rivets and workmanship all as that which we had previously sent—we tested it in Philadelphia after they throwed up this contract, on Nov. 7th, 1867, by the Wiccacoe steamer, a first-class Amoskeag steam-engine. I seen that hose stand two hundred and twelve pounds test.

Q. State what size nozzle you used on testing the hose.

A. I believe it was an inch and one-eighth (1⅛.)

Q. Have you had any experience as a fireman?

A. Yes, sir; I belonged to an engine company of Philadelphia about three years.

Q. Do you know what sized nozzles are used on hose with a first-class steam fire-engine?

A. Yes, sir; they use from an inch to and inch and a half for largest; 1½ is the largest, I think, I saw then in use.

Q. State in what condition the gauge upon this engine was; whether it had been inspected at the time the test was made.

A. I don't know, sir.

Q. Who was present when the test was made on the seventh of November?

A. Mr. Greer, Joseph Barry, George Kurkz, Mr. Liley; I could not tell you how many more. It was a public trial we gave the hose in Philadelphia.

Q. Who was Liley?

A. The engineer of a Philadelphia fire-company.

Q. Where is he now?

A. Texas.

51 Q. Joseph Barry, who is he?

A. Superintendant and builder of steam fire-engines for Newbaugh & Levey & Co., Philadelphia.

Q. Who is George Kurkz?

A. Engineer of Philadelphia Hose Co., Philadelphia.

Q. Any others present?

A. Joseph Page, engineer for a running engine at that time.

Q. Where was the trial had; what street in Philadelphia?

A. I could not say what street; it was near the Weccacoe co. engine-house.

Q. Was it on the street?

A. Same street as the Weccacoe co. engine-house.

Q. On the public street?

A. Yes, sir.

Q. Have you had any experience in testing hose?

A. Yes, sir; I have been to test some five or six a year, ever since I have been in the business.

Q. Upon the hypotheses that the engine was gauged right, go on and say whether this test was a fair one or not.

A. Yes, sir; I would consider that that was a fair test.

Q. In what condition did it leave the hose?

A. No visible effect upon the hose at all. It only damaged it for selling it for new hose. You can't sell hose if water has once passed through it for new hose.

52 Q. Were you present at any other test of this hose?

A. No, sir; not of that; that was made for Chicago, although there was another one.

Q. Out of what set of hose was this taken that you tested?

A. Out of hose that we had already marked to send to Chicago. The time we received the telegraph despatch we took it back in the shop again.

Q. Where was it then?

A. On the dray, ready to be sent, directed to U. P. Harris, fire marshal, and we took it back into the shop, and took one section off from the top and tried it.

Q. Is it customary—you are acquainted with the practice of the trade in that regard—as to the water test, is it customary to reject the hose on the first trial of a section of hose in case some defect is discovered?

A. No, sir; it is not. There is hardly a manufacturer of hose in the United States that could manufacture five hundred feet of hose without something giving away on the first trial. We have always had the privillege of having the second trial; then we claim the first trial is no trial at all as to the quality of the hose, and we have always claimed the privillege whenever the hose has burst on the first trial to take out that defective part and make it good, even in government contracts. I

53 was present at several trials where we tested hose at low pressure, and the defective part was taken out and made as good as contracted for.

Q. How many pieces of leather does it require to make fifty feet of hose?

A. It depends on the kind of leather used.

Q. Suppose you used an average of twenty-four pounds to the side?

A. That makes a difference; such leather as we used for the contract of the city of Chicago, I have seen such leather make nine pieces of good hose of fifty feet. The same hose of less weight along the head and belly, the same leather being filled up better in the shoulder.

Q. What was the rivets you used?

A. Extra rivets, copper.

Q. What have you to say as to the skill and competency of the workmanship?

A. Some of the workman had been in the business less than five years and some more than thirty-five, and I never saw them do any bad work.

Q. What was this lap, about how much?
A. About an inch on both sides.
Q. Passed over an inch?
A. Yes, sir; on both sides.
Q. In cutting wider, what difference did that make with the position of the rivets?
A. If you make a narrow lapping it would be impossible to put that many rivets in a foot; where you make a wide lap, if you make one rivet less; than it is leaking.
54 Q. When you make a wide lap the rivets are wider apart?
A. Yes, sir.
Q. The narrower the lap, the more the rivets approach to a straight line—that is a single line of rivets?
A. Yes, sir.
Q. I understand you that the sample coupling they sent you to make the hose by was a half an inch in diameter more than they stated in the advertisement?
[Yes, sir?]
A. Yes, sir.
Q. Did Mr. Titsworth, or any of the commissioners, ask you for a reason why you could not send the hose by the first of September?
A. Yes, sir; I told them they had delayed the day giving me the contract; also, it was impossible for any hose-maker to furnish that amount of hose in that length of time; that we had the largest hose-manufacturing establishment in the country, and if we could not nobody could. He asked me how much I could furnish; I told him about two thousand feet a week. He asked me when that would commence; I told him after I got back to Philadelphia. When I got back to Philadelphia, I measured the size of the coupling. I found we had very little leather in that would cut that size hose.
Q. Would the leather you had on hand when you returned to Philadelphia been suitable for a two and a half inch?
55 A. Yes, sir.
Q. How old is this manufacturing house?
A. It was established in 1821, I believe.
Q. Is it a large establishment.
A. Four stories high, and one hundred feet deep.
Q. How as to the business comparred with others in Philadelphia?
A. We do very little other business except manufacturing fire-hose, and we make on an average about a thousand feet a week regularly.
Mr. ADAMS. I offer these railroad receipts in evidence.
By the COURT. That is the shipment of the hose, I suppose.
Mr. ADAMS. Yes, sir.
Q. About a thousand feet of hose that you had left that wasn't saleable, or could not be diposed of?
A. No, sir; it was not saleable, and could not be disposed of.

Cross-examination by Mr. Davis:

Q. Of what persons is the house of Samuel Y. Greer & Co. composed?
A. At present, Mr. Samuel Y. Greer himself only.
Q. How long have you been in the employ of that house?
A. About ten years.
Q. You are now foreman in that house?
A. Yes, sir.
Q. Are you interested in that contract at all?
A. No, sir.

Q. Were you in Philadelphia when this letter was sent to Chi-
56 cago by Mr. Greer to the Chicago board of commissioners?
A. Yes, sir; I was in Philadelphia, and fetched it along here with me.
Q. How did it happen that that letter was sent?
A. Mr. Greer got notice from a gentleman who was residing in Philadelphia that there was to be a contract given here for hose, and he made up that proposal, and sent me here with it to put his bid in.
Q. Who was it?
A. Wm. McCormick.
Q. Has Mr. Greer ever made hose for the city of Chicago before?
A. No, sir.
Q. Is that his business, making hose?
A. No, sir.
Q. What is his business?
A. He is not a hosemaker himself; he carries on the business.
Q. What is his general business?
A. I don't know as he ever was in any business. He has been about a hose shop ever since he was a little boy.
Q. What has been Mr. Greer's business?
A. He carries on this hose-making.
Q. That is his sole business?
A. Yes, sir.
By the COURT. He means that he don't work at the business himself.
57 A. That is what I mean. That is not his sole business either; he has a tannery in the country; he is proprietor of it, but he don't carry it on.
Q. Has he made hose for any other cities than Chicago?
A. Yes, sir.
Q. What cities?
A. I could not begin to name them all?
Q. Name some of the most important.
A. Made for the city of Richmond, Virginia; for the city of Camden, New Jersey; New Orleans, La.; Reading, Penn.
Q. Did you make any for Demoines?
A. Yes, sir.
Q. Was his hose acceptable?
A. Yes, sir; he never had a foot of hose returned, to my knowledge, but always had only complimentary letters from different parties that he has made hose for.
Q. Did the New Orleans people take all he sent?
A. Every foot except one lot that was lost.
Q. Mr. Greer sent you on after he wrote this letter to Chicago?
A. Yes, sir; he sent me on with that; I brought that on.
Q. What time did you arrive in Chicago?
A. I think on the night of the 24th of July.
Q. Did you proceed at once to see the board of commissioners?
A. Yes, sir.
Q. What gentleman did you meet?
A. Mr. Titsworth.
58 Q. State when and where you met the first time.
A. He was the gentleman I handed my proposal to, to hand to Mr. Harris
Q. Was he the only member of the board present?
A. Yes, sir; I told him I had come on from Philadelphia to put in a

proposal for the hose here, and I wished him to take that proposal and put it before the board of commissioners, and that I wanted fair play.

Q. What did Mr. Titsworth tell you?

A. He said he would do so.

Q. Did you see the board of commissioners after that?

A. Yes, sir.

Q. What persons were present when you saw them?

A. Mr. Titsworth, Mr. James, and Mr. Brown.

Q. What took place then?

A. They opened the proposal; and after that I was called in by the board, and they asked me some questions about the reputation of the house; whether we could do this about furnishing the hose. I told them we could; I went out into another room, and they came out afterwards and told me they had awarded the contract.

Q. Did they tell you you were the lowest bidder?

A. I heard that when they opened the proposals.

Q. What was the next lowest?

A. $1 85 was the next lowest, I think; it was for Gage.

Q. Who next?

A. Holyoke & Weaver, of Chicago.

59 Q. Recollect what they bid?

A. I can't recollect exactly; I think it was $1 95; I won't be certain as to that.

Q. Fifteen cents then between you and the next lowest bid?

A. Yes, sir.

Q. Did you give any reason why you made such a low bid?

A. Yes, sir; I told them Mr. Greer wanted to furnish the city of Chicago with hose, and to make this lot a card for him in the West.

Q. Say anything about the leather on hand?

A. Yes, sir; I said he had about five or six hundred sides, I believed, on hand of leather.

Q. What size hose had you been manufacturing for other towns?

A. What we call nine-inch; 2½-inch in diameter.

Q. Had you had any contracts like this you made for Chicago?

A. No, sir.

Q. Never had any contracts for two hundred pounds pressure?

A. No, sir.

Q. Never knew any town to call for such?

A. No, sir; yet I have seen a great deal more pressure than that put on our hose.

Q. That is not the question; did you test this hose you sent on to Chicago?

A. No, sir.

Q. I understand you to state that the ten hundred and fifty feet

60 you sent was never tested?

A. No, sir.

Q. That was a different set that you tested?

A. Yes, sir.

Q. When you were here did you see any of the hose that the Chicago board had on hand that they had been using?

A. Yes, sir.

Q. When you accepted this contract, or made this agreement, or had this conversation with the board, had you then examined any of the hose that the city of Chicago had on hand at that time?

A. Yes, sir.

Q. Didn't you make your proposition with a knowledge of the character of that hose in your mind?

A. Yes, sir.

Q. What authority had you from Mr. Greer to act; what did Mr. Greer send you to do?

A. To put in his proposal for that hose.

Q. Had you any authority to accept or act in any manner?

A. Yes, sir; he gave me full power to act for him in this matter.

Q. Did you see the coupling on the hose that you examined?

A. Didn't take any notice of the hose.

Q. Coupling were on the hose?

A. Yes, sir; the hose was in use that I seen.

Q. You saw the hose with the coupling on?

61 A. I suppose there was coupling on, but I didn't examine the coupling.

Q. Didn't you afterwards employ some of the coupling that were used on the hose of Chicago on what you made?

A. Yes, sir.

Q. Hadn't you ever seen them?

A. No, sir.

Q. Didn't you know, from the knowledge you have in reference to it, the coupling on its inside was 2½ inches?

A. Yes, sir, I know that; and I think it measured two and a half on the inside of the hose.

Q. Were not those coupling two and a half inches in diameter on the inside?

A. Yes, sir; on the inside.

Q. You didn't use the leather you had on hand?

A. Not all of it.

Q. Didn't you rely on that leather, on the fact that you had that leather on hand when you made this agreement to furnish the hose by the first of September?

A. Yes, sir.

Q. Did you think at the time you made this contract with the city of Chicago that you could carry out this at two thousand feet a week?

A. Yes, sir.

Q. You did think you could do it?

A. Yes, sir.

Q. How many weeks were there from the time you first saw the

62 board and the bids were opened to the first of September?

A. I received everything on the 27th day of July; I arrived in Philadelphia on the 29th of July.

Q. What day did you commence work?

A. As soon as I got there.

Q. On the 30th?

A. Yes, sir.

Q. You could turn out somewhere between eight and nine thousand feet of hose between that time and the first of September, without alteration of the shop?

A. Getting out and making it is different.

Q. You could have got it out?

A. I don't understand your question.

Q. I say, on the day you arrived in Philadelphia to the first day of September, if you had worked at the rate of two thousand feet a week, which is the extreme capacity of your shop, you could have turned out between eight and nine thousand feet of hose, without allowing for the shipment to Chicago?

A. Yes, sir.
Q. And yet you were contracting to ship thirteen thousand?
A. Yes, sir.
Q. You knew you could not possibly carry out this contract when you made it?
A. I told them at the time.
Q. To whom did you show that bid?
63 A. To the commissioners, to all of them; I stated distinctly before the board of commissioners that I could not furnish that contract by that time; that it was impossible for to make it by that time.
Q. How many sides of leather do I understand you, you used in each of these fifty-feet lengths?
A. In this what we manufactured and sent here?
Q. Yes, sir.
A. I think it took from five to five and a half sides.
Q. How many hides?
A. Ten to eleven.
Q. How much did they weigh apiece?
A. I never weighed them.
Q. What is your idea?
A. I could not tell.
Q. What do you think the lightest of them weighed?
A. I could not say.
Q. What do you think the heaviest of them weighed?
A. That I could not say.
Q. Would you undertake to say what you considered them?
A. The leather we used in the rough, weighed twenty-four pounds to the side. Then there was the belly and head that we didn't use in the hose at all, and then the flesh is shaved off from it, and it is scoured and put in grese and hung up to dry.
Q. There were ten or eleven pieces of sides, twenty-four pounds
64 to the average; is not that unusually heavy leather?
A. Yes, sir.
Q. Have you ever made any other hose of such leather as that?
A. Yes, sir.
Q. For what place?
A. To go to the city of Richmond.
Q. Is that the only one you ever made?
A. No, sir; we buy as heavy leather as we can get for that kind of hose; for hose of that size they have to buy very heavy weight leather to get the width out of it between the back and belly.
Q. How was it about the quality you put in; was there no part of this leather could be from mixed goods?
A. No, sir; not in my judgment.
Q. I suppose you examined all this hose?
A. Yes, sir.
Q. There were no spots there that would burst under a fair pressure of two hundred pounds.
A. That I could not say; there is many a place in leather that it is impossible for anybody to say what they are going to stand until it is tried.
Q. You could not see whether it would be liable to burst?
A. Only from trial. I have been at a good many trials, and nine times out of ten there will be some bursting.
Q. State to the jury what you would consider to be a fair result of a

65 trial of hose manufactured to stand that test of two-hundred-pound pressure.

A. I can make in my judgment hose, if it is good leather, run well up into the shoulder, filled up well; I could make it on a nine-inch basis so it would stand on [on] a fire-engine, 1¼-inch nozzle, 240 pounds.

Q. Suppose you take that hose you sent here and have a pressure applied to it of two hundred pounds to the square inch, a fair pressure; how many pieces out of twenty ought to burst, supposing it was well made?

A. That depends altogether on how many defective places is in that hose. There may not more than one of them burst and they may all burst.

Q. And it would be a good hose if all of it burst?

A. Yes, sir; it would be a good hose if all of it burst.

Q. Didn't Mr. Brown tell you in regard to the times this hose was to be done, that the city required it on the first of September?

A. No, sir.

By the COURT. I don't see that that makes any difference. I don't think that should have been the reason why the order was given, because it was not all delivered. It is not so stated by the despatch. I think you are bound by that despatch.

By Mr. DAVIS. It is a question, perhaps, that will bear eventually upon the voracity of that witness; that is the reason why it was put.

66 By the COURT. It seems to me this was a very careless way of doing business at any rate.

By Mr. DAVIS. I think we shall show that it was a pressing necessity on the part of the city to have the hose immediately.

By the COURT. At any rate, the city received this man as an agent, and the principal sent him as an agent. The principal could not deny his authority, and the city contracted with him as an authorized agent.

By Mr. DAVIS. That is, provided there is a contract.

By the COURT. That is a question of fact for the jury.

Q. You state there were no weak spots in the hose you saw; also that the riveting had to be put in as it was, in order to stop the water from soaking out?

A. Yes, sir.

Q. Who did that riveting?

A. Workman that we have in the shop.

Q. Didn't you leave that to be done by the least skilled laborers in the shop?

A. No, sir.

Q. What would you consider to be a fair test of this hose?

A. To be put on a steam-engine with a one and a quarter or one and an eighth inch nozzle.

Q. What head of steam?

A. I am not an engineer.

Q. What pressure of water?

67 A. I don't know that either.

Q. What pressure of water do you think would be a fair pressure?

A. I don't know how much water it would take to get that pressure.

Q. What makes you say, "Put on a 1¼-inch nozzle?"

A. Because I have always seen hose tested in that way.

Q. You don't know any reason then?

A. No, sir.

Q. You would think the way fair?

A. A fire makes a great deal of difference in a hose. If the hose is not damaged in any way by anything running over it, a hundred and fifty pounds is plenty to put on at a fire, or a hundred and twenty-five pounds. About as much as ever I saw put on at a fire, as a general thing in our city, is about a hundred and twenty pounds. I don't know about what they do here.

Q. This hose was made for fires here?

A. Yes, sir.

Q. You are a member of the fire department?

A. Yes, sir.

Q. Suppose you should take out a hose to a fire, and five or six lengths should burst?

A. Yes, sir.

Q. Is that an ordinary thing?

A. I have seen hose burst under ordinary pressure.

Q. Would you say it was good hose?

68 A. Yes, sir; if it would stand the pressure there to be repaired.

By the COURT. I suppose the witness means simply that the leather is defective; that the hose is manufactured right, but the defect is in the leather.

Q. I understand you to say that if five or six length of hose burst in a fire, that would be good hose—out of a thousand feet?

A. I should not think that would be any test or trial of the hose, because there might be defects in the leather.

Q. You think the city ought to have sent the hose back to let you repair it?

A. No, sir; if they had sent word that the hose had given out we could have come up and fixed it in a little time.

Q. What size nozzles do they use in Philadelphia?

A. According to the class of engine; $1\frac{1}{8}$ and $1\frac{1}{4}$ inch, and sometimes $1\frac{1}{2}$ inch on first-class steamers.

Q. Do you know what size they use in Boston?

A. No, sir.

Q. Do you know what size they use in New York?

A. No, sir.

Q. Do you know what size they use here?

A. No, sir.

Q. Don't know what the size of hose is they use in New York or Boston?

A. No, sir.

Q. You don't?

A. No, sir.

Q. Never have made any hose for those cities?

69 A. Never, to my knowledge, made any hose for Boston or New York.

Q. Are you in the habit of testing the hose you manufacture in Philadelphia, before you deliver it?

A. No, sir.

Q. Is your hose usually tested before it is put in service?

A. Lately it has been; since this affair out here, the people desire it.

Q. I understand you, prior to this affair out here, you didn't?

A. No, sir.

Q. How far did this hose lap over that you made?

A. One inch.

Q. How large were the holes that you made for the rivets to go in?

A. A little smaller than the rivets themselves; I could not tell exactly what size.

Q. Those rivets, you say, stood upon interstices?

A. Yes, sir.

Q. Was it exactly in the center like that, (illustrating;) the rivet of the second row directly behind the center of the space between the rivets of the first row?

A. Yes, sir;

Q. Forming a letter "V"?

A. Yes, sir.

Q. What was the interval between these rivets; what was the distance between the rows of the rivets?

A. From the first row to the second row?

Q. Yes, sir.

70 A. Half an inch; the first row was half an inch from the second and half an inch from the end of the rivets.

Q. What size holes in the leather?

A. I judge about an eighth of an inch.

Q. In that conversation with the board of commissioners in regard to the manufacture of this hose, did you give them any estimate of what it would cost you to manufacture the hose?

A. No, sir; I didn't. I told them Mr. Greer——.

Q. You state that they have cost about a dollar-fifty a foot?

A. Yes, sir.

Q. Did you not state to the board that it would cost you about a dollar and sixty-nine cents?

A. Not to my knowledge; I never told them anything like that.

Q. You still say a dollar fifty cents was the cost price?

A. I believe it was the calculation we made at the time we came on.

Q. Is that the calculation you made with the fire commissioners?

A. No, sir.

Q. What calculation did you make with them with regard to the cost of this hose to you?

A. I don't recollect that I gave them any price what it would be; I told them that I thought it would cost some amount, but I didn't know how much.

71 Q. Didn't you state to them that you didn't expect to make much out of the contract?

A. Yes, sir.

Q. Did you state the object was to build up a business out here?

A. Yes, sir.

Q. What would be the profit on that estimate?

A. About twenty cents a foot.

Q. Didn't you also give as a reason why you were willing to take it at that price, that you had a stock of leather on hand?

A. No, sir.

Re-direct examination:

You said when examined by General Davis that the hose you tested in Philadelphia was not the hose that you sent on to Chicago. I understand you to say it was from the lot sent on to Chicago?

A. Yes, sir.

Q. How did it compare in quality with that that you sent on to Chicago?

A. Same thing.

Q. You sold that you had manufactured for other cities, Richmond, Camden, Reading, and New Orleans?

A. Yes, sir.

Q. Can you mention any other cities?

A. I believe there was, but I can't recollect them now.

Q. Did you manufacture any for Lancaster, Pennsylvania?

72 A. Yes, sir.

Q. Wilmington?

A. Yes, sir.

Q. Dresdon?

A. Yes, sir.

Q. Johnstown?

A. Yes, sir.

Q. With regard to this coupling, how is coupling usually put on to hose, inside or outside?

A. In our city, we usually put it on the outside of the hose.

Q. You say your attention was not directed particularly to the coupling that you saw on the hose in Chicago?

A. No, sir.

Q. With regard to the coupling, was your expectation that the coupling should be put on the outside?

A. Yes, sir.

Q. How did you find the sample when you got it?

A. Found it would have to be screwed on the inside of the hose; it was made in such a way.

Q. The diameter of the coupling being two and a half inches, you had to put it inside instead of outside; it would take more leather?

A. Yes, sir.

Q. You were asked if the work of riveting was not committed to the least skillful laborers in your shop; you said not; state as to the competency and skill of the men who did the riveting.

A. There was not a section ——

73 By the COURT. That has been gone over once.

Q. In answer to a question by Gen. Davis as to what size nozzles were used at fires, you say it is according to the size ot the engine?

A. Yes, sir.

Q. The size of the nozzle varies as the engine varies?

A. Yes, sir.

Q. State whether with a large engine you use a large nozzle and with a small engine a small nozzle.

A. Yes, sir.

Q. You were asked if you had been required to test hose before the hose would be accepted, and I understood you to say not until after this affair?

A. Yes, sir; the people of Philadelphia that we had contracts with. In the fire department we always had to test, I mean for fire companies in Philadelphia; but ever since the affair out here, they all make agreements in writing to have the hose stand such a pressure; but we always have the privillege if anything gives out to mend. We don't consider the first trial final.

Q. With regard to the rivets, you said, I believe, that the holes were a little smaller than the rivets?

A. Yes, sir.

Q. What size rivets did you use?

A. I think it was an eighth, or a little over an eighth.

Q. Is that the ordinary size rivets?

A. No; not the ordinary manufacture.

Q. Why did you use different sized rivets?

74 A. I think it is better to use heavier rivets in this hose.

Q. They are heavier than ordinary rivets?

A. Yes, sir.

By Mr. Davis:

You brought this (showing paper) on with you?

A. Yes, sir.

Q. Had you read it?

A. Yes, sir.

Q. Had you read the printed notice connected with it?

A. Yes, sir.

Q. The whole thing before?

A. Yes, sir.

Q. That is, the form in which it was presented?

A. Yes, sir.

Q. You had been familiar with the whole contract?

A. Yes, sir.

(The paper referred to in the foregoing interrogatories of Mr. Davis was the advertisement of the fire marshal, of July 15th, 1867, and the letter of the plaintiff addressed to the fire marshal on the 22nd of July, 1867, and heretofore set forth in this record.)

Samuel Y. Greer, pl'ff, being called, and having been duly sworn, was examined in chief by Mr. Adams, and testified as follows:

Q. You are the plaintiff in this case?

A. Yes, sir.

Q. Where do you reside?

A. In Philadelphia.

75 Q. What is your business?

A. Manufacturer of leather fire-hose and belting.

Q. How long have you resided in Philadelphia?

A. Nearly twenty-four years.

Q. How long have you been engaged in your present business?

A. At least five years.

Q. Are you the party that made this contract?

A. Yes, sir.

Q. At what time did Mr. Rastar, your foreman, return to Philadelphia, after he had been here?

A. I think on the evening of the 29th of July.

Q. What did you do, if anything, under the contract?

A. We proceeded to manufacture hose for the city of Chicago.

Q. How much did you manufacture?

A. We manufactured and sent to the city of Chicago twenty-one hundred and fifty feet of hose.

Q. Prior to what time?

A. To August 30th, 1867.

Q. What sort of leather was in that hose?

A. We went down and selected hose leather, averaging twenty-four pounds to the side.

Q. In what manner was it manufactured as to the material and workmanship?

A. The material of which it was manufactured was corresponding with the schedule on my proposal.

Q. For the city of Chicago?

A. Yes, sir.

76 Q. And to the advertisement?

A. Yes, sir.

Q. You sent on twenty-one hundred and fifty feet; how much did you manufacture?

A. Thirty-one hundred and some odd feet.

Q. What became of the other thousand feet?

A. It was billed and marked U. P. Harris, to Chicago; the bill was made out, and the hose was on the dray on the evening of the 30th of August.

Q. Why didn't you send it?

A. I stepped out of the office; I don't think I was gone over fifteen minutes—supposing that the hose had went—to the best of my knowledge the dray had started with the hose to the depot; I came into the office and I found that the hose had been brought in the shop, and my foreman handed me a telegram—this was the one. To the best of my knowledge it was about four or five o'clock on the afternoon of that day.

Q. Is that the telegram offered in evidence here?

A. Yes, sir.

Q. For that reason you sent no more?

A. Yes, sir.

Q. What have you done with that thousand feet?

A. It still remains in our shop, being perfectly unsalable. I have endeavored ever since returning to Philadelphia to sell that thousand feet of hose without success.

Q. For what reason?

77 A. It is not marketable or saleable.

Q. For what reason?

A. In Philadelphia and all neighboring towns and cities that we have been furnishing hose, our house for the past fifty years have no use for that size hose.

Q. Had you done anything else under this contract besides manufacturing this 3,150 feet of hose?

A. We had prepared some seven hundred hides—extra heavy hose leather—expressly for this contract; prepared ten-inch, double riveted, copper riveted hose.

Q. What disposition did you make of that leather?

A. We used that leather for the last of our customary hose; it was nine-inch.

Q. What was the value of the leather that you had made for ten-and-a-half-inch hose?

A. I have a memorandum here showing the value of the leather, (reading,) "Seven hundred hides, twenty-four pounds average heft, 18,800, at fifty-five cents, $9,240."

Q. When you cut that seven thousand feet down to nine-inch hose, how many feet did you have of nine-inch hose?

A. Same number of feet.

Q. What sort of leather could you have made nine-inch hose of equally saleable with the nine-inch hose made of this leather cut down?

A. We could have purchased seven hundred sides at an average of eighteen pounds, which at that time was forty-seven cents, which would make $5,922 00; a difference of $3,318 at that time.

78 Q. How much was the value of the labor in cutting it down?

A. We had the leather on our hands, and we worked up our orders on our regular time; it took us about seven weeks, at the rate of about twenty-five dollars a week.

Q. Had you any coupling on your hands?
A. Yes, sir; all the coupling.
Q. How many pairs?
A. Two hundred and sixty pairs.
Q. What was the value of the coupling?
A. They cost me four dollars and seventy-five cents a pair.
Q. How many pairs did you have left after the termination of the contract with the city?
A. After making thirty-one hundred and fifty feet of hose, we had a hundred and ninety-seven pair left.
Q. They cost four dollars and seventy-five cents a pair?
A. Yes, sir.
Q. Of what value were they for other purposes?
A. To my knowledge we never made any other hose to fit that standard; we contracted to sell this coupling at the current rate of old brass, which was sixteen cents a pound at that time.
Q. State how you came by this coupling that was different from other coupling.
A. The style of coupling that we had been almost universally in the habit of using to put on hose is a coupling to screw on the outside with the rivet in the inside. After the coupling is screwed on the hose the coupling is fastened with two to four rivets. When we received that sample we didn't go exactly according to the kind of coupling,
79 supposing that the kind of coupling would be the kind we had been using to put on the outside. When my foreman came back to Philadelphia he brought a standard coupling with him. Upon examination of that coupling we found a coupling which measured, to the best of my knowledge, a sleight over two inches in diameter on the inside. I took the coupling, and they measured——
Q. Were the coupling which were made to be placed on the inside or outside of the hose?
A. Made to be placed on the inside of the hose with a ring on the outside.
Q. In that case it would require a larger diameter of leather than two-and-a-half-inch hose, placing it on the outside?
A. Yes, sir.
Q. Did you on account of that have to make any change with regard to your leather?
A. Yes, sir; we had to purchase and prepare an entirely different lot of leather.
Q. How were these hose riveted?
A. The rivets used were number six size copper wire. The second row of rivets was placed behind the interval of the first row, with the heavy part attached.
Q. After you got this dispatch from Chicago, what did you do?
A. I immediately left on the first train for Chicago; took the eleven o'clock train the same evening, arrived here Sunday noon. Sun-
80 day was the first of September. On Monday morning I called upon the commissioners. I should say, to the best of my knowledge, Mr. Ward, the secretary, to whom I introduced myself, and I afterwards saw Mr. Brown. I met him in the street or at his office, I could not say exactly which; I know I met him going across the street. We had a talk on the subject of the hose. I asked him what was the matter, or some words to that effect. I asked them what they had been doing; with that, Mr. Brown said to me, "Mr. Greer, we are very sorry

about this trouble with regard to that hose." To the best of my knowledge, I could not say positively, on account of the time being so far back. We got talking about the time. I asked him what was the reason the board rejected the hose, as far as I recollect. He didn't reject the hose on account of that, as they were satisfied in regard to the time, but on account of the hose not coming up to the test—that the hose would not stand the pressure. I believe I told him—I am sure I told him—that I was prepared to make the contract good by taking out the defective parts and make it good, and would not ask the board to receive a foot of that hose until it had received a two-hundred-pound pressure, as I claimed in the proposal I was ready to make the hose stand a two-hundred-pound pressure. Also talked with Mr. James in the room of the board; the board was not in session; the same remarks I have been stating was said. This was on Monday morning. I also saw Mr. Harris with reference to the matter, and he expressed
81 some sympathy. I asked them what they intended to do. I was informed by some party or parties that the board were to meet that afternoon. I came there, and the gentlemen gave me an opportunity to make a statement, and I made a statement the same as I did in the morning. I told them I did not waive my right of the contract, and they distinctly told me they had entered into a contract with another party for ten thousand feet of hose, and there was no appropriation, and therefore they could not do anything with regard to mine. I then asked them if they would give me an engine to try the hose. To the best of my knowledge I asked the fire marshal also, and he told me he had no power to give me one. I told him I desired a public trial in the city of Chicago; he refused. Then I asked Mr. James; that was on the second of September, and conversed with the gentlemen of the board. To the best of my knowledge they absolutely refused to give me an engine. On the second or third day after the board met, finding all my efforts were unavailing to get any satisfaction from the board, I applied to counsel, and I got my counsel to call on them. We called upon Mr. Brown and also upon Mr James, and we were told that on to-morrow—I think on to-morrow—that they would give us the use of an engine, but they could not at that time. I believe the gentlemen of the board were going down to see a trot by the horse Dexter, and they could not take time to
82 attend to me, and I had to wait until to-morrow, and I had to call two or three times. At Mr. Buell's office I was offered an engine provided I would sign a stipulation. I think this was on Friday or Saturday, September. That stipulation I handed to my counsel, but did not sign it under his advice.

Q. Would you know it, if you were to see it? (Showing paper.)

A. Yes, sir; that is it.

Q. Why would you not sign that?

A. Because I thought in my judgment I would sign a document that would prejudice my right. I thought perhaps one part of the document might be held on by the board of commissioners, and the other not, and that they would not regard it as an official test whether my hose would stand two hundred pounds pressure or not; and I would neither prejudice the rights of the city of Chicago or myself, and would not sign the paper.

(Pl'ff's counsel read in evidence document referred to:)

At the request of S. Y. Greer, the fire marshal is hereby directed to place at the disposal of S. Y. Greer any steam fire-engine Mr. Greer may select in the fire department, for the purpose of trying hose in any manner Mr. Greer may see fit to adopt. The engine selected to be run

and managed by the engineer & stoker ordinarily running the same; and it is understood by Mr. Greer & the police commissioners that any tests so made by him are not official tests, and shall not bind
83 or prejudice the rights of the city of Chicago or said S. Y. Greer.
Chicago, Sept. 6th, 1867.

T. B. BROWN,
WM. JAMES,
Com's of Board of Police.

Q. You refused to make that test?

A. Yes, sir.

Q. Did you learn the date of the contract that they had made with another person?

A. Yes, sir.

Q. Did you know who it was made with?

A. I learned the date of the contract from—to the best of my knowledge—from reading the minutes of the proceedings of the commissioners. Mr. Ware gave me to understand, and, in fact, told me, and I don't know the other gentleman's name, from some foundery, showed me the minutes of the meeting, whereby I found out that the contract had been awarded to a firm here, a Mr. Gray, of Chicago, for ten thousand feet of leather hose at a dollar and ninety-five cents a foot, twenty-five cents more than my bid, and the instruction pretty much the same as mine, with the exception of the time of delivery from two weeks to three months. I could not say exactly with regard to the time; the day before the contract was closed with me, August the 31st, I believe, to the best of my knowledge.

84 Q. Were you present at any test of this hose that you manufactured for the city of Chicago?

A. I was present at the test of the identical hose that were bundled and marked, and on drays the night that I received the despatch; we tested some of that hose.

Q. At what time?

A. The first of November, 1867.

Q. Who was present?

A. Mr. Button, Mr. Barry, Mr. Gray.

Q. That is the test Mr. Raster alludes to?

A. Yes, sir.

Q. You heard his testimony with regard to that test?

A. Yes, sir.

Q. Do you agree with him with regard to the matter?

A. Yes, sir.

Q. When was the second test?

A. Made December the 4th, 1867.

Q. Of the same kind of hose?

A. The identical hose we had packed and marked.

Q. How did the hose then tested compare with the hose sent to Chicago?

A. Compared exactly in quality of leather, rivets, and workmanship, and coupling, as I have said before.

Q. What sort of an engine did you use at the test made on the fourth of December, 1867?

A. A first-class Amoskeag steam fire-engine, one of the largest in our city.

Q. State in what condition the gauge of the engine was.

85 A. I had an inspector test the gauge of the engine, named Edward Schmidt.

Q. One of the witnesses whose deposition is taken in this case?
A. Yes, sir.
Q. What size nozzle was used?
A. An inch and an eighth.
Q. How much water pressure bearing to the square inch?
A. The water pressure varied from a hundred and three and five up to two hundred and fifteen per square inch. I saw on the steam-gauge, they told me the pressure was 140 pounds. It shook the engine, so they had to chuck the engine-wheels to keep her from jumping. The hose didn't leak: it required four men to hold the pipe, and we tied the pipe with a rope to the telegraph post.
Q. Have you had any experience in the fire department?
A. About five years.
Q. Do you know what size nozzle you ordinarily use on a first-class fire-engine?
A. ½-inch, first class; second class, ⅛ to ½.
Q. This was a first-class engine?
A. Yes, sir; we used 1½-inch on the trial.
Q. Had you any conversation with the fire marshal, Mr. Harris, or any of the commissioners, as to whether or not any of your hose, which had arrived in Chicago, had been used?
A. From the record of the minutes of the meeting.
Q. Were you present at the regular meeting on Monday afternoon?
86 A. Yes, sir.
Q. Was there anything said then?
A. Yes, sir; Mr. Harris mentioned the fact in opening the board; I don't know whether the question came from one of the commissioners or not.
Q. What did he state?
A. Stated they had used the hose, I believe, at three fires; two on State street, and one on Clark.
Q. How much?
A. 1,850 feet.
Q. Do you know where the other part of the hose was?
A. I believe it was at the depot; Mr. Harris told me he thought it was at the depot, I believe.
Q. Do you know whether this hose was tested in Chicago before it was used at these fires, either of your own knowledge, or by virtue of the marshal or any of the commissioners.?
A. I knew by the proceedure of the board of commission, also by their conversation. I didn't know of this hose except from the records; I understood from the gentlemen of the commission that the hose was used before the test was made.
Q. Do you know anything further with regard to your conversation with the commissioners; or anything that you wish to state you can state.
A. I don't know anything more than my conversation with Mr. James; he told me to a certain extent that he thought the city were liable for damages on the contract on account of using the hose for fires.
87 (The def's counsel objected to the declaration of others, and moved that so much of the testimony as refers to the declaration of others be stricken out.)
By the COURT. What was said by the board at their sitting would be admissable; what was stated by the authorized agent of the board as a fact & not as an opinion merely, I suppose that would be competent. These are the agents of the city for this purpose.

(Which ruling was then and there excepted to by counsel for defendant.)

Cross-examination by Mr. Davis:

Q. Was the first time you met the fire commissioners at Chicago the time when you came on here?

A. Yes, sir; on the morning of the second of September, 1867, that I met them, I think.

Q. At that time you saw Mr. Brown and Mr. James?

A. Yes, sir; in the morning.

Q. And you examined the records?

A. No, sir.

Q. It wasn't that time?

A. No, sir; not in the morning.

Q. What did Mr. Brown say to you in the morning?

A. I believe that I was introduced to him that morning, but I don't know that I can call to my mind that now, but I think I went over to his office with somebody, and coming across the street—or whether I went over and introduced myself, I can't say positively, but I
88 recollect on the crossing, half-way over from each side, a conversation of sympathy was brought up by Mr. Brown, who said he was very sorry that my hose didn't stand the test.

Q. Did he give you any reasons?

A. He said—no, sir.

Q. Did he say anything about his own hose there?

A. Yes, sir.

Q. What?

A. He said the city was very much in want of hose.

Q. Didn't he give you that as his particular reason why he was sorry?

A. No, sir; he might have given me that as one reason; I could not swear positively that he did.

Q. State what he did say in regard to the city being in need of hose?

A. He said on account of fires—a great deal of fires was going on, and he said the city needed a great deal of hose.

Q. Didn't he say he counted on receiving your hose for use?

A. Yes, sir.

Q. You state Mr. Brown drew up this?

A. No, sir; I said, to the best of my knowledge, I didn't see him draw it up.

Q. He didn't state to you whether he did or not?

A. No, sir.

Q. This was drawn up at your request?

89 A. No, sir.

Q. It states that at the request of S. Y. Greer the fire master is hereby directed to place at the disposal of S. Y. Greer, &c.?

A. Yes, sir.

Q. You read it?

A. Yes, sir.

Q. Could select any engine that you chose in the department?

A. Yes, sir.

Q. The simple condition was that the city was not to be bound by the test, nor you?

A. The condition was that it would not prejudice the rights of the city of Chicago, nor me, and would not be an official test.

Q. State why you didn't make that test.

A. Because it was not an official test, and they would not regard it as

Q. One of the witnesses whose deposition is taken in this case?
A. Yes, sir.
Q. What size nozzle was used?
A. An inch and an eighth.
Q. How much water pressure bearing to the square inch?
A. The water pressure varied from a hundred and three and five up to two hundred and fifteen per square inch. I saw on the steam-gauge, they told me the pressure was 140 pounds. It shook the engine, so they had to chuck the engine-wheels to keep her from jumping. The hose didn't leak; it required four men to hold the pipe, and we tied the pipe with a rope to the telegraph post.
Q. Have you had any experience in the fire department?
A. About five years.
Q. Do you know what size nozzle you ordinarily use on a first-class fire-engine?
A. $\frac{1}{2}$-inch, first class; second class, $\frac{1}{8}$ to $\frac{1}{2}$.
Q. This was a first-class engine?
A. Yes, sir; we used $1\frac{1}{2}$-inch on the trial.
Q. Had you any conversation with the fire marshal, Mr. Harris, or any of the commissioners, as to whether or not any of your hose, which had arrived in Chicago, had been used?
A. From the record of the minutes of the meeting.
Q. Were you present at the regular meeting on Monday afternoon?
86 A. Yes, sir.
Q. Was there anything said then?
A. Yes, sir; Mr. Harris mentioned the fact in opening the board; I don't know whether the question came from one of the commissioners or not.
Q. What did he state?
A. Stated they had used the hose, I believe, at three fires; two on State street, and one on Clark.
Q. How much?
A. 1,850 feet.
Q. Do you know where the other part of the hose was?
A. I believe it was at the depot; Mr. Harris told me he thought it was at the depot, I believe.
Q. Do you know whether this hose was tested in Chicago before it was used at these fires, either of your own knowledge, or by virtue of the marshal or any of the commissioners.?
A. I knew by the proceedure of the board of commission, also by their conversation. I didn't know of this hose except from the records; I understood from the gentlemen of the commission that the hose was used before the test was made.
Q. Do you know anything further with regard to your conversation with the commissioners; or anything that you wish to state you can state.
A. I don't know anything more than my conversation with Mr. James; he told me to a certain extent that he thought the city were liable for damages on the contract on account of using the hose for fires.
87 (The def's counsel objected to the declaration of others, and moved that so much of the testimony as refers to the declaration of others be stricken out.)
By the COURT. What was said by the board at their sitting would be admissable; what was stated by the authorized agent of the board as a fact & not as an opinion merely, I suppose that would be competent. These are the agents of the city for this purpose.

(Which ruling was then and there excepted to by counsel for defendant.)

Cross-examination by Mr. Davis:

Q. Was the first time you met the fire commissioners at Chicago the time when you came on here?

A. Yes, sir; on the morning of the second of September, 1867, that I met them, I think.

Q. At that time you saw Mr. Brown and Mr. James?

A. Yes, sir; in the morning.

Q. And you examined the records?

A. No, sir.

Q. It wasn't that time?

A. No, sir; not in the morning.

Q. What did Mr. Brown say to you in the morning?

A. I believe that I was introduced to him that morning, but I don't know that I can call to my mind that now, but I think I went over to his office with somebody, and coming across the street—or whether I went over and introduced myself, I can't say positively, but I
88 recollect on the crossing, half-way over from each side, a conversation of sympathy was brought up by Mr. Brown, who said he was very sorry that my hose didn't stand the test.

Q. Did he give you any reasons?

A. He said—no, sir.

Q. Did he say anything about his own hose there?

A. Yes, sir.

Q. What?

A. He said the city was very much in want of hose.

Q. Didn't he give you that as his particular reason why he was sorry?

A. No, sir; he might have given me that as one reason; I could not swear positively that he did.

Q. State what he did say in regard to the city being in need of hose?

A. He said on account of fires—a great deal of fires was going on, and he said the city needed a great deal of hose.

Q. Didn't he say he counted on receiving your hose for use?

A. Yes, sir.

Q. You state Mr. Brown drew up this?

A. No, sir; I said, to the best of my knowledge, I didn't see him draw it up.

Q. He didn't state to you whether he did or not?

A. No, sir.

Q. This was drawn up at your request?

89 A. No, sir.

Q. It states that at the request of S. Y. Greer the fire master is hereby directed to place at the disposal of S. Y. Greer, &c.?

A. Yes, sir.

Q. You read it?

A. Yes, sir.

Q. Could select any engine that you chose in the department?

A. Yes, sir.

Q. The simple condition was that the city was not to be bound by the test, nor you?

A. The condition was that it would not prejudice the rights of the city of Chicago, nor me, and would not be an official test.

Q. State why you didn't make that test.

A. Because it was not an official test, and they would not regard it as

such, and Mr. Brown distinctly told me that they had nothing to do with the hose; that they had already entered into another contract; that they had entered into a contract for the whole amount of the appropriation.

Q. Didn't you understand by that, that the police commissioners meant to say that they didn't think your hose was good?

A. I didn't understand it in that way; I understood it that they had entered into another contract; and it didn't make any difference to them whether my hose would stand two or three hundred pounds pres-
90 sure, they would not take it.

Q. If you were satisfied that your hose would stand the test of two hundred pounds pressure to the square inch, why didn't you make the test?

A. Because I would have to sign that paper.

Q. Were you asked to sign that paper?

A. Yes, sir.

Q. Were you not asked to take that paper to the fire master?

A. No, sir; I was asked to sign that paper and show it to the fire marshal.

Q. Did you deliver this to the counsel?

A. Yes, sir.

Q. Did they say not to sign it?

A. Yes, sir.

Q. In what way?

A. I can't recollect the technical word he said, but as a matter of common sense I would not sign it.

Q. Did you understand this instrument, reading thus, "It is understood by Mr. Greer and the police commissioners that any test made by him shall not be an official test, and shall not bind or prejudice the rights of the city of Chicago or S. Y. Greer," could prejudice your rights at that time?

A. I thought it might at that time, and that it might still.

Q. How much hose did you complete in all?

A. About thirty-one hundred and fifty feet.

Q. Is that hose larger or smaller than the hose in ordinary use
91 in Philadelphia?

A. Larger, by an inch and a half in circumference.

Q. Do you know of any other place in the country where such hose is used as we use here?

A. I don't know of any other hose except it. It might be. I have never examined the hose in New York City very close; but to the best of my knowledge, it might be. But to the best of my knowledge, I say I don't know of any ten-and-a-half-inch double-riveted hose being used.

Q. Do you know the coupling used here is used in any other city in the Union?

A. I don't.

Q. Did you try them from Boston?

A. Yes, sir.

Q. New York?

A. I don't know about New York; we use New York coupling in our business sometimes.

Q. Do you state there is no coupling 2½ inches in the internal diameter used in any city in the Union?

A. Yes, sir. The difference is in the stream that would make a difference in the connection; you can run coupling from an inch and a half up to three inches.

Q. You used coupling in Philadelphia the same size as this coupling?

A. Yes, sir; same size as regards 2½ inches; we have used as high as four and a half in diameter.

Q. The leather hose is not attached the same as here?

A. We once connected. The only time I ever recollect, to the
92 best of my knowledge, of ever using a coupling similar to this in size and thread was, we received a contract from a hose-maker to make so much hose, and we were to put coupling on and he furnished them.

Q. What place was that for?

A. That was taken south. I don't know where it went to; we are in the habit of making hose for hose-makers, and they send the description; the water pressure we guaranty is 150 pounds to the square inch to each line of hose, and we put in all our own guarantees the word, "To be made to stand."

Q. Do you test them before you send them?

A. No, sir.

Q. Have you ever tested any before you sent it?

A. No, sir.

Q. Do you now?

A. No, sir. I test hose in this way: If the party will give me a contract for a thousand or two thousand feet of hose to-day, I would have that hose tested by a steam fire-engine; but I would distinctly tell the parties that that hose would be what is ordinarily called second-hand, on account of the water passing through; and I would have a stipulation to that effect; provided, also, that they used a fire-nozzle.

Q. What size nozzle would you use?

A. On a first-class engine from 1⅛ to 1½.

Q. How much steam would you get up?

93 A. I would next open my engine gradually from sixty pounds up to not over a hundred and ten or twenty of steam. I have seen a hundred and twenty pounds pressure on an engine.

Q. How much water pressure?

A. I have seen a hundred and twenty pounds of steam on an engine; of water pressure on a hose, I should say 1⅛ inch nozzle, from 160 up to 180 pounds.

Q. Where is this pressure made?

A. There is a connection with the air-chamber.

Q. Where is that?

A. Right where the water passes from the engine in the hose.

Q. Where the hose joins the engine?

A. Yes, sir.

Q. You said 160 pounds pressure?

A. I say I have seen from 150 to 180 pounds pressure; I have also seen hose burst before the water reached the nozzle.

Q. If there was 150 to 180 pounds water pressure at the junction of the hose with the engine, would the pressure be greater or less at the mouth of the hose where the nozzle is?

A. That is a scientific question; I could not answer that question.

Q. In other words, where would the hose be most likely to burst?

A. I could not answer that question either; it is a good deal in
94 running the engine whether the hose can be burst at low pressure. The best hose can be burst at the opening of the engine, by opening the throttle quick.

Q. If the throttle is opened quick?

A. I have seen it myself; I tried it; I furnish hose for Chaplin & Bruce. We were detained by the train, and I thought I would try the

hose; I tried the hose, and I burst it at a very low pressure, using a large nozzle.

Q. Suppose you get a pressure of from 150 to 180 pounds, would this pressure be stronger at the junction of the hose with the engine than near at the nozzle?

A. I can't say; I don't know.

Q. Is not the tendency of water to diffuse the pressure equally in every part?

A. I can't answer that as a scientific question.

Q. Don't know anything about it?

A. No, sir.

Q. Suppose instead of putting on a nozzle, you put on a hose-cap and let the engine work, where would be the pressure then?

A. The hose would burst, in my judgment, before the driving-wheel made half a revolution.

(Objected to; question waived.)

Q. Could there be any more practical test of hose than the actual use of it at fires?

A. Do I understand you to say, could there be any more practical test?

Q. Yes, sir.

A. There could be a more practical test for this reason—hose
95 laid out at fires is liable to be run over by steam fire-engines, and the rivets—more especially in a double-riveted hose than any other kind of hose—the engine may turn the rivet entirely opposite and cut in between, and that same hose will burst at a very low pressure indeed. Even a light hose-cart passing over with a narrow-rim wheel may produce the same effect.

Q. Might not accidents happen at any test?

A. Yes, sir.

Q. That is what you would call an accident?

A. Yes, sir.

Q. Is it usual for five or six lengths to burst at a fire?

A. I furnished to the Belgian Hose Company of Philadelphia hose, and at the first time that was tested at a fire—it was fortunately my own company—a line of this hose, about, say, ten sections; the other hose was on the reel; they laid this out and tested it. The moment they put the fire on, each one of the sections burst and leaked. They came to me, and they wanted to know how that was. I said to them, Gentlemen, I am willing to make the thing all right; don't judge too soon. When I came to examine the hose, I found each of the lengths was deliberately cut with a knife in between the rivets.

Q. It was not cut in the shop?

A. No, sir.

Q. Did you ascertain who cut that?

A. No, sir. I published a reward in the paper to find out who
96 cut that; but I never could find out.

Q. That is not in answer to my question. I ask you, as a fireman, if five or six lengths should burst in using—I don't mean cut—whether you would consider that good hose?

A. Yes, sir; according to how the engine is run, whether the engineer running the engine run it as it should be.

Q. We all know hose can be cut. I ask you, if five or six lengths of hose should burst without being cut, would that be good hose?

A. If five or six lengths should burst, I would not judge the quality of the hose until I knew how it bursted. I would not pass my opinion until then.

Q. Taking twenty lengths of hose, or any number of lengths you choose to select, how many ought to stand the test of two hundred pounds, or whatever number of pounds it was manufactured to stand; what would be a fair breakage?

A. As I said before, the leather may be defective by the sting of a fly or a wobble hole, and the least amount of pressure might break it; and there might be a flaw in the workmanship. I don't consider, any way, the first trial a fair test.

Q. You have said that two or three times.

A. I don't know. I would not judge of the quality by seeing it at a fire.

Q. Suppose you were buying hose guaranteed to stand a
97 pressure of two hundred pounds to a square inch, and that hose broke at a pressure of 170 or 180 pounds, would you consider that good hose?

A. I would not at that time. I would not judge as to the animal matter of the leather. I would think the hose could be made to stand over and above that pressure. There is an expansion. You can expand leather a great deal.

Re-direct examination:

Q. Did you make an estimate of the cost per foot of this hose?

A. I did.

Q. How much was it?

A. I estimated up to about a dollar and a half a foot. I thought we could make that hose for a dollar and fifty cents—twenty cents a foot margin.

Q. Who were the police commissioners present at this meeting?

A. Messrs. Brown, James, and another gentleman. I believe that is all.

(It is admitted that Mr. Titsworth and Mr. Gunn were fire commissioners at that time.)

Pl'ff's counsel here read in evidence depositions of John W. Regan, Joseph Barry, George Kurtz, Joseph Pegram, Edward Shmidt. Mr. Davis moved to exclude so much of the testimony of Edward Shmidt as belongs to that of an expert. Motion denied, and def't's counsel
98 excepts.

Pl'ff's counsel read in evidence deposition of Albert Forepaugh.

Which said depositions of said witnesses are, respectively, in the words and figures following, to wit:

99 Deposition of John W. Reagan, a witness on behalf of the plaintiff, taken December 30th, A. D. 1867, at Boston, Mass., before Henry C. Hallet, esq., United States commissioner, by virtue of a commission sued out of said court:

Interrogatory first. What is your name, age, occupation, and place of residence?

Answer to 1st int. John W. Reagan; age, thirty-three years; hose-maker; residence, Boston, Mass.

Interrogatory second. Do you know the parties to this suit, or either, and which of them, and how long have you known them respectively?

Answer to 2d int. I know the plaintiff, Samuel Y. Greer; have known him about two years last past.

Int 3. State definitely what your present business is; how long you have been engaged in said business; and in whose employ, if in the employ of any one, you now are.

100 Ans. to 3d int. My present business is hose-making; I have

been engaged in that business more than twenty years; I am now in the employ of James Boyd & Sons, hose-makers, of Boston, Mass., and have always been in their employ.

Int. 4. State whether you are a judge of leather, and of the quality of leather fire-hose; and, if yea, state what opportunities and experience you have had, if any, to qualify you as a judge of leather fire-hose.

Answer to 4th int. I consider myself to be a judge of leather, and leather fire-hose; my being foreman of the concern of Boyd & Sons for about seven years, (I have had charge of their establishment, buying their stock of leather,) has given me an opportunity and experience to judge of leather and leather fire-hose; besides being a member of the Boston fire department for the last thirteen years, and for the last six years one of the associate engineers of the Boston fire department.

Int. 5. Do you know of the plaintiff, Samuel Y. Greer, of Philadelphia, having manufactured leather fire-hose for the city of Chicago? If yea, state whether you have ever seen and examined the said hose, and, if so, when and where, and describe the same, giving the kind and
101 quality of the leather and of the hose, and how the hose was manufactured, whether well made or otherwise.

Answer to 5th int. I do know of the plaintiff, Sam'l Y. Greer, of Philadelphia, having manufactured leather fire-hose for the city of Chicago. I have examined the said hose in the city of Chicago in September last past. It was oak-tanned, double-rivetted, two-and-half-inch hose; the quality was good. The hose was as good as I have seen. The leather I have used oftentimes myself; what I examined was of the manufacture of Adam Forepaugh & Sons, of Philadelphia, who stand No. one. My opinion was and is that the stock and workmanship of said hose was good.

Int. 6. State whether your attention was directed to the rivetting of said hose; and, if so, state the manner in which said rivitting was done, whether properly or otherwise?

Answer to 6th int. My attention was directed to the riveting of [of] said hose. The riveting was good and better than a majority of hose-makers. More copper was put into this hose than we generally put in.

Int. 7. State whether you have had any experience in the test-
102 ing of leather fire-hose; and, if yea, how much experience, and what would, in your opinion, be a fair and impartial test of leather fire-hose?

Answer to 7th int. I have had probably more experience in testing leather fire-hose than any other man in the Union. I go all over the country with our hose and have it tested. At all the steam fire-engine trials I have had charge of the hose, in Boston. My opinion would be that two hundred pounds for No. one leather hose, would be a fair and impartial test, through an inch nozzle, the purchaser to put on any number of feet of hose he might see fit.

Int. 8. What is the difference between open and capped pressure in testing leather fire-hose; and is capped pressure a fair test of such hose?

Answer to 8th int. What the difference between capped and open pressure is I can't tell, because we have never used capped pressure; I mean to say that I can't tell the difference in the number of pounds. The effect of capped pressure is, that it will destroy the hose. We never sold hose to parties to be tested by capped pressure. I tried an experiment on my own account once, on Boston Common, with capped pressure. The effect was that the hose capped burst at one hun-
103 dred and eighty-five lbs., while the one with the inch nozzle stood two hundred and twenty lbs. without bursting. Both hose were

made from the same leather, fifty feet each. Capped pressure is not a fair test of such hose.

Int. 9th. Would pump capped pressure, in your opinion, be as fair and impartial a test of leather fire-hose, as a test by a properly guaged steam fire-engine with open pressure; and give your reasons, and explain the difference between the two kinds of pressure.

Answer to 9th int. A pump-capped pressure would not be as fair a test as a properly-guaged steam fire-engine with open pressure; I mean to say a pump that is worked by hand, because the pressure could not be worked up steady enough. It is an unsteady pressure and the hose is porous.

Int. 10th. In order to have a fair test of leather fire-hose, by water pressure applied by means of a steam fire-engine, for the purpose of ascertaining how much pressure per square inch the hose will stand without bursting, what sized nozzle should be used with the engine?

Answer to 10th int. A one-inch nozzle should be used.

104 Int. 11th. State whether in your opinion a test of leather fire-hose made as supposed in the last interrogatory, but using with the engine a seventh-eighth-inch nozzle, would be a fair test. Give reasons for your answer.

Answer to 11th int. I do not consider a seven-eighth-inch nozzle a fair test, because it strains the hose and injures it for after use. I have seen hose used with a seventh-eighth-inch nozzle for the first time, and it stood two hundred lbs.; the next time it was used with the same nozzle, it broke at one hundred & eighty lbs.

Int. 12th. State if you know what sized nozzles are generally used with steam fire-engines when in operation at fire. Answer fully, and give your means of knowledge.

Answer to the 12th int. In our city of Boston, one-inch nozzle is generally used at fires. We have some an inch-and-eighth, some inch-and-quarter, and some an inch-and-half-nozzle. I know of no town or city in the Union where less than an inch nozzle is used at fires.

105. Int. 13th. Do you know or can you set forth any other matter or thing which may be a benefit or advantage to the parties at issue in this cause, or either of them; or that may be material to the subject of this your examination, or the matters in question in this cause? If yea, set forth the same fully and at large in your answer.

Answer to 13th int. I consider my employers, Messrs. Boyd & Sons, to be the best hose manufacturers in the Union, and outside of their manufacture, I consider the hose I saw at Chicago, manufactured by Samuel Y. Greer, of Philadelphia, the best I have ever seen. The stock and workmanship was good. When I examined the hose in Chicago, shown to me as Greer's hose, I did not know that I was acquainted with the manufacturers; I afterwards found that it was the same Greer to whom I had received an introduction two years before in Boston.

106 Cross-interrogatories by the defendant:

Cross-interrogatory first. If in answer to direct interrogatory 5th, you state that you do know of the plaintiff having manufactured leather hose for the city of Chicago, state where you got the information, from whom, and when you got it; and when and where you saw and examined said hose.

Answer to 1st cross-int. I got the information here in Boston, that Sam'l Y. Greer was making hose for the city of Chicago, from Mr. Ward, of the firm of Boyd & Sons; he was out to Chicago to get the contract for our firm; I think it was last August. I went to Fon du Lac, Wis., with hose for Boyd & Sons, and stopped at Chicago on my way out and

back; I saw Greer here in Chicago when on my way back. A friend of mine, a member of the Chicago fire department, asked me if I would like to see the hose; I asked him about Greer's hose; he said it was down in the armory. I went to see it; this was in September, 1867; the man having charge of the hose depot said the hose was Greer's hose.

107 Cross-interrogatory second. Did you ever see any of the hose that was actually sent by the plaintiff to Chicago for delivery to the city under the contract? If yea, who showed to you, when, and at what date was it shown to you; for what purpose was it shown to you; and how do you know that it was actually sent to Chicago?

Answer to 2d cross-int. I did see the hose in Chicago; one of the ass't fire-marshals in Chicago told me it was Greer's hose delivered under contract. The man who had charge of these hose depot told me it was the same hose. The engineer of No. 13 engine told me it was the hose. The fireman of No. 13 engine told me it was the hose. Mr. Sweeney, formerly chief engineer of the Chicago fire department, told me it was the hose. I asked to see it; I saw in a Chicago paper that it had been tested and had burst, and I wanted to see it; this was in Sept., 1867; after I examined the hose, they asked my opinion of it; I told them the stock was good.

Cross-interrogatory third. Did you ever see any of that hose that the plaintiff delivered to the city of Chicago tested? If yea, how much of it was tested, under what circumstances, and when and where was it taken?

108 Answer to 3d int. I never saw it tested.

Cross-interrogatory fourth. Is not double-riveted leather hose weakened by placing the second row of rivets directly behind the first row, and is it not the usual method of constructing hose to place the second row behind the intervals between the first row of rivets?

Answer to 4th cross-int. Double-riveted leather hose is weakened by placing the second row of rivets directly behind the first row, and it is the usual method of constructing hose to place the second row behind the intervals between the first row of rivets.

Cross-interrogatory fifth. How many pieces of leather should, in your judgment, be put in a fifty-foot length of hose in order to stand a pressure of two hundred pounds to the square inch?

Ans. to 5th cross-int. Not less than twelve; I use thirteen and fourteen and twelve about an equal number of times.

JOHN W. REGAN.

109 UNITED STATES OF AMERICA, *District of Massachusetts:*

Be it remembered that on the thirtieth day of December, eighteen hundred and sixty-seven, personally appeared the within-named John W. Regan before me, the subscriber, in Boston, in said district of Massachusetts, and he having been by me carefully cautioned and sworn to testify the truth, the whole truth, and nothing but the truth relating to the cause for which this deposition was taken, then and there gave the foregoing deposition, which was reduced to writing, and to him carefully read, and by him subscribed in my presence.

The said deposition was taken by authority of the annexed commission, to be used in the circuit court of the United States for the northern district of Illinois in the cause pending, wherein Samuel Y. Greer is plaintiff and the city of Chicogo is defendant.

Witness my hand and seal this thirty-first day of December, A. D. 1867.

[SEAL.] HENRY L. HALLET,
U. S. Commiss. Mass. Dist.

110 Depositions of the following-named witnesses, viz: Joseph Parry, taken on the 8th day of January, 1868, between the hours of 10 o'c'k a. m. and 6 o'c'k., p. m.; George Kurtz, taken on the 9th day of [of] January, 1868, between the hours of 10 o'c'k a. m. and 6 o'c'k p. m.; Joseph Pidgeon, taken on the 10th day of January, 1868, between the hours of 10 o'c'k a. m. and 6 o'c'k p. m.; Edward Schmidt, taken on 10th day of January, 1868, between the hours of 10 o'c'k a. m. and 6 o'c'k p. m.; and of Albert Forepaugh, taken on the 18th day of January, 1868, between the hours of 10 o'c'k a. m. and 6 o'c'k p. m.; they being the identical parties named in the annexed commission: all of said depositions being taken at my office, at the S. E. corner of 6th and Walnut streets, in the city of Philadelphia, and State of Pennsylvania, before me, Edward Shippen, the commissioner named in the commission hereto annexed, and upon the interrogatories enclosed, & by virtue of said commision to be read in evidence in a certain cause now depending in the circuit of the U. S. for the northern district of Illinois, wherein Samuel Y. Greer is plaintiff & the city of Chicago is def't.

[SEAL.] EDW. SHIPPEN,
Commissioner.

111 *Deposition of Joseph Parry.*

The said Joseph Parry, being first duly sworn, doth depose and say in answer to the several interrogatories as follows, viz:

Interrogatory first. What is your name, age, occupation, and place of residence; and how long have you been engaged in your present occupation?

Answer. My name is Joseph Parry; I am fifty-six years old; I am a designer & superintendant of steam fire-engines; and live in this city; I have been engaged in my present occupation for ten years.

Interrogatory second. Do you know the parties to this suit, or either and which of them, and how long have you known them respectively?

Answer. I know the plaintiff; have known him about twenty years. I do not know the city of Chicago; I know of it; have never seen it.

Interrogatory third. State if you know of any leather fire-hose having been manufactured by Samuel Y. Greer, the plaintiff, for the city of Chicago, the defendant in this suit; and, if so, what hose you saw
112 (seen E. S.) said hose or any part thereof, and where, when, and under what circumstances.

Answer. I know that Mr. Samuel Y. Greer, the plaintiff, manufactured some leather (E. S.) fire-hose for the defendant. I have seen part of it at various times at the plaintiff's shop. I saw part of it tested in November last; on the 7th of November.

Interrogatory fourth. If in your answer to the last interrogatory you say that you have seen said hose, state whether you are a judge of the quality of leather hose; and, if so, state the quality as to material and manufacture of the hose manufactured by Greer, as aforesaid.

Answer. I am a judge of the quality of leather fire-hose. I consider the hose manufactured by Mr. Greer for the city of Chicago, in respect to quality and manufacture, as good as any manufactured at any time in the United States; I have used all makes of hose and feel perfectly competent to judge.

Interrogatory fifth. Have had any experience in testing leather fire-hose; if so, how much and how long experience; and if you say you have had such experience, state if you know what is and would be a fair and impartial test of leather fire-hose.

113 Answer. I have had ten years' experience in testing leather fire-hose. A fair and impartial test of leather fire-hose would be thus: Attach the hose to a first-class steam fire-engine with pipe and nozzle on; the nozzle one inch and an eighth of an inch in diameter; then start the engine and the pressure up gradually, till it reaches a pressure of one hundred and fifty pounds to the square inch.

Interrogatory sixth. State whether in your opinion cap pressure would be a fair pressure by which to test leather fire-hose, and give your reasons, and explain what cap pressure is, and what open pressure is, and the difference between these two kinds of pressures, and the effect which each has upon leather fire-hose to which it is applied, and the difference in effect.

Answer. I do not consider cap pressure would be a fair pressure to test leather fire-hose, because it is a harsh pressure, and rigid, having no outlet for water; it is not a natural pressure, for the house would not receive such pressure when in use; cap-pressure is obtained when the power is applied, while the cap is screwed on the end of the hose; open pressure, when the power is applied, when the cap is not on and with the nozzle on; cap pressure is a solid, rigid, continuous pressure, and when applied to leather hose, it receives a concussion at each
114 stroke of the pump, and produces a constant jarring on the hose, which might burst even the best hose. Open pressure is not so harsh upon the hose, and does not produce the same concession as above referred to, on account of the continuous current or flowing out at the nozzle.

Interrogatory seventh. In order to test leather hose in a fair and impartial manner, what sized nozzle should be used on the hose in applying the test?

Answer. An inch-and-a-quarter nozzle with a first-class engine.

Interrogatory eighth. State if you know what sized nozzle is generally used in testing leather fire-hose?

Answer. From one inch and one-eighth to one inch and a quarter according to the size of the engine.

Interrogatory ninth. In testing leather fire-hose by applying thereto water pressure by a steam fire-engine, state whether the fairness and the accuracy of the test depends in any degree upon the management of the engine's throttle. If yea, how? Explain fully.

The fairness and accuracy of the test does depend on the management of the throttle. If the throttle-valve is opened suddenly in a long line of hose, the hose could be burst before the water would reach the nozzle if there was a full head of steam.

115 Interrogatory tenth. If you say in answer to the last interrogatory that the management of the engine's throttle effects the test of leather fire-hose, state what effect upon the hose a sudden movement of the throttle would have, or would be likely to have, while the pressure was being applied.

Answer. The same effect as I have already stated; the sudden movement of the throttle would be likely to burst the hose; I have repeatedly seen hose burst in this way.

Interrogatory eleventh. Suppose leather fire-hose which, if tested in a fair and impartial manner, would stand a pressure of two hundred pounds per (E. S.) square inch, at how low a pressure could such hose be burst by a sudden movement of the throttle?

Answer. At about one hundred and fifty pounds to the square inch.

Interrogatory twelfth. State whether you have ever been present at a test of leather fire-hose manufactured by Samuel Y. Greer for the city

of Chicago. If yea, when, where was the said test made, publicly or otherwise, and what persons were present, so far as you can recollect?

116 Answer. I have been present at a test of leather fire-hose manufactured by Samuel Y. Greer for the city of Chicago, on the seventh of November, 1867, at a public trial in Philadelphia, in Queen street below Second. The chief engineer, Lyle, of the Phila. fire department, (now deceased;) Joseph Pidgeon, engineer of the Weccacoe Steam Fire-engine Company; George Kurtz, engineer of the Philadelphia Hose and Steam-engine Company; Joseph Hindermur, brass founder; William H. Raster, Mr. Greer's foreman; Mr. Greer himself, and a great many others connected with the fire department of this city were present at the testing referred to.

Interrogatory thirteenth. If you say in answer to the last interrogatory that you were present at a test of leather fire-hose manufactured by Samuel Y. Greer, state in what manner the said hose was tested; and, if by a steam fire-engine, describe the engine; what make of engine and what capacity; state also the amount of pressure which was applied, and the effect upon the hose. Answer fully and particularly.

Answer. The test was by attaching to a steam fire-engine with pipe and nozzle of one inch and an eighth diameter; the engine used was a first-class Amoskeag company engine, having two eight-inch
117 steam cylinders, with twelve-inch-stroke and two pumps four and three-quarter inch, each with same stroke as cylinders. The amount of pressure on the hose was two hundred and twelve pounds to the square inch. The hose did not leak or burst; was sound when the test was over.

Interrogatory fourteenth. If you state in answer to a previous interrogatory that you have witnessed a test of leather fire-hose manufactured by the said Greer, state whether in your opinion said test was made in a fair and impartial manner.

Answer. The test was fair in every respect; it was made in a fair and impartial manner.

Interrogatory fifteenth. State whether the running of a steam fire-engine for a considerable length of time would have or would be likely to have any effect upon the guage of the engine as to accuracy. If yea, state what effect and the reasons.

Answer. It would have a tendency to weaken the guage, and it would not show the correct pressure.

Interrogatory sixteenth. In order to make a fair test of leather
118 fire-hose by water pressure applied by means of a steam fire-engine, for the purpose of ascertaining how much of such pressure per square inch such hose will sustain without bursting, what sized nozzle should be used with the engine?

Answer. An inch-and-a-quarter nozzle with a first-class engine, and with a second-class engine an inch-and-a-eighth (E. S.) nozzle.

Interrogatory seventeenth. State whether in your opinion a test of leather fire-hose by water pressure applied by means of a first-class fire-engine, a seven-eighth-inch nozzle being used with the engine would be a fair test for the purpose of ascertaining how great pressure the hose would sustain without bursting. Give reasons for your answer.

Answer. It would not be a fair test; the outlet being so small with a first-class engine, it would be almost the same as I have described with cap pressure.

Interrogatory eighteenth. State if you know what sized nozzles are generally used with steam fire-engines when operating at fires.

Answer. From an inch and one eighth to one inch and a half in diameter.

119 Interrogatory nineteenth. Do you know or can you set forth any other matter or thing which may be of benefit or advantage to the parties at issue in this cause, or either of them, or that may be material to the subject of this your examination, or the matter in question in this cause? If yea, set forth the same fully and at large in your answer.

Answer. I do not know anything else than I have stated, to the best of my recollection.

Cross-interrogatory first. Have you ever been in the employ of the plaintiff; &, if yea, when and how long?

Answer. I have never been in his employ.

Cross-interrogatory second. Where did you see hose manufactured by Greer for the city of Chicago; when did (E. S.) you see it. Do you know that the hose you saw was ever delivered or tendered to the city of Chicago. How do you know it? Answer fully. State all the circumstances in regard to the delivery or tender of the hose described in your direct examination.

Answer. I have seen it frequently since the first of August in Greer's shop, and also at the test. The hose I saw packed up and baled

120 and marked, directed to the fire marshal of the city of Chicago. Some of it was on the dray for shipment to Chicago when the telegraphic despatch was to the effect that the hose would not be received; the despatch was from E. P. Ward, of Chicago.

Cross-interrogatory third. If you ever saw said hose tested, state particularly the time and place of said test, and by whom it was made. Give the date of the said test.

Answer. I saw part of the hose tested on the 7th of November, 1867, in Queen street, below Second, in this city. The test was made by the Weccacoe fire-engine, run by Mr. Pigeon and assisted by Mr. Kurtz.

Cross-interrogatory fourth. When was the hose you saw tested sent to Chicago?

Answer. It was never sent, by reason of the telegraphic despatch referred to.

Cross-interrogatory fifth. How many pieces should there be, in your judgment, in a fifty-foot length of hose, to stand a pressure of two hundred pounds on the square inch?

Answer. An average of about ten pieces.

JOSEPH L. PARRY.

121 STATE OF PENNSYLVANIA, *City of Philadelphia, ss:*

I, Edward Shippen, a commissioner for the State of Illinois residing in said city, being the commissioner named in the annexed commission, do certify that the said witness, Joseph Parry, prior to the taking of his said deposition, and on the eighth day of January, 1868, was by me duly sworn to testify to the truth in relation to the matter in controversy in the suit mentioned in the caption to these depositions and in the enclosed commission, so far as he might be interrogated in relation thereto, and that said deposition was, on the eighth day of January, 1868, taken and reduced to writing, and signed and sworn to in my presence by said witness.

Given under my hand and seal this 8 January, 1868.

[SEAL.] EDW. SHIPPEN,
Commissioner.

122 *Deposition of George Kurtz.*

The said George Kurtz, being duly sworn, doth depose and say in answer to the several interrogatories as follows, viz:

Interrogatory first. What is your name, age, occupation, and place of residence?

Answer. My name is George Kurtz; I am in my forty-fourth year; I am engineer of the Philadelphia Hose & Steam-engine Company; I live in Philadelphia.

Interrogatory second. Do you know the parties to this suit, or either and which of them, and how long have you known them, respectively?

Answer. I know Mr. Greer for eight or nine years. I don't know the defendant. I have been within its corporate limits.

Interrogatory third. Are you a judge of leather fire-hose as to quality, material, and workmanship? If yea, state what and how long experience you have had, if any, to qualify, to judge of such hose?

123 Answer. I am a judge of fire-hose as to quality, material, and workmanship. I have had twenty-six years' experience. I was foreman of Van Ness & Torboss, manufacturers of fire-engines' hose and suction.

Interrogatory fourth. State if you know of any leather fire-hose having been manufactured by Samuel Y. Greer, the plaintiff in this suit, for the City of Chicago, the defendant in this suit. If yea, state whether you have ever seen said hose or any part thereof; and, if you have seen it, state what the quality of said hose was. Answer fully?

Answer. I do know of leather fire-hose having been manufactured by Samual Y. Greer for the city of Chicago. I have seen part of the hose; the quality was equal to the best I ever saw in my life.

Interrogatory fifth. Have you ever had any experience in testing leather fire-hose? If yea, state what and how long experience; [state what and how long experience;] and also if you know what would be a fair and impartial test of leather fire-hose?

124 Answer. I have had about nine years' experience of testing leather fire-hose. I don't think any man in our Philadelphia fire department has had as much experience in this matter as I have had. I consider a fair and impartial test of leather fire-hose would be to place it in a first-class engine and pass the current of water through it with not less than one-inch-and-a-quarter nozzle, with from one hundred and sixty to one hundred and eighty pounds pressure, one hundred and sixty pounds is the ordinary testing pressure. The pressure in ordinary use is about one hundred pounds on the hose and about sixty pounds on the boiler.

Interrogatory sixth. State how leather fire-hose should be tested, and what would be a fair test of such hose?

Answer. A fair test would be as I have stated in my answer to the last interrogatory.

Interrogatory seventh. If you say that you have seen leather fire-hose manufactured by Samuel Y. Greer for the city of Chicago, state whether you ever saw the said hose or any part thereof tested; and, if so,

125 when, where, and whether publicly or otherwise; state also the manner in which the same was tested, and if by water pressure applied by a steam fire-engine, describe the engine, giving the make thereof and the capacity; also the amount of pressure per square inch applied in such test and the result, viz., the effect upon the hose.

Answer. I have seen part of the hose manufactured by Samuel Y.

Greer for the city of Chicago; saw it tested on two occasions, both publicly; on the first test, the 7th November, 1867; on the second, the 4th of December, 1867; both tests were in Queen street, below Second st., in this city, in front of the Weccacoe Engine Company's house; both testings were made by attaching the hose to the engine with pipe and nozzle, (one-and-an-eighth-inch nozzle,) and current of water passed through from the engine. The pressure was about two hundred and fifteen pounds on the hose each time. I was on the wheel of the engine all the time to examine & observe the pressure. The engine was a double first-class engine, made by the Amoskeag Manufacturing Company. It had two four-and-three-quarter pumps with twelve-inch stroke; two steam cylinders eight-inch diameter, and same stroke of twelve inches. There was no visible effect on the hose; it stood the testing as well as any hose I ever saw; there was no bursting, not
126 the least leakage, and no soft place in the leather so as to raise lumps. I examined it carefully, leaving the engine to do so, after the extreme pressure was put on.

Interrogatory eighth. State if you know what cap pressure is, and what open pressure is; and also the effect that cap pressure has upon leather fire-hose, and the effect that open pressure has, and the difference in effect of the two kinds of pressure.

Answer. I know what cap and open pressure is; cap pressure is obtained by screwing the cap on the end of the hose and applying the power; open pressure is without the cap, leaving the amount of water to pass out. The effect of cap pressure on leather fire-hose is, (after the hose is fully charged with water and air,) that every stroke of the pump gives to the hose a solid blow, the tendency of which is to stretch the hose and thus burst it, or strain it so as to create leakage. The open pressure is not attended with such results, as the current passing rapidly through the hose more readily equalises the pressure upon the hose.

Interrogatory ninth. What would be or would be likely to be the difference in effect upon leather fire-hose, between cap pressure and open pressure, with one to one-and-a-quarter-inch nozzle, from steam fire-engine?

127 Answer. The hose under the cap pressure would burst with one hundred and twenty pounds of steam on; the hose with the nozzle stated, under open pressure, would not burst at that pressure, if the hose be good.

Interrogatory tenth. In applying to leather fire-hose water pressure by means of a steam fire-engine, what effect, if any, upon the hose would a sudden movement of the engine throttle have while the pressure was being applyed?

Answer. The effect would be to force the water into the hose faster than it could discharge itself; the result would be bursting the hose. This I have seen many a time.

Interrogatory eleventh. Suppose leather fire-hose which, if fairly tested by water pressure by means of a steam fire-engine, would stand a pressure of two hundred pounds to a square inch, at what degree of pressure or at how low a pressure could such hose be burst by a sudden movement of the engine's throttle? Explain fully, giving reasons.

Answer. The hose might burst at one hundred and twenty pounds to the square inch, or it might not under one hundred and fifty pounds.

The reason being that by opening the engine suddenly, the
128 pumps are driven at great speed, and the water is crowded into the hose faster than it can be discharged, consequently something must give way.

Interrogatory twelfth. State whether, in your opinion, a test of leather fire-hose by cap water pressure, applied by means of a hand-pump, such as is used for testing iron water-pipes, would or would not be a fair test of such hose; and give reasons for your answer.

Answer. It would not be a fair test, because leather hose should not be tested with cap on.

Interrogatory thirteenth. In testing leather fire-hose by cap water pressure, applied by means of a hand-pump, such as is used in testing iron water-pipes, what, if any, would be the effect upon the hose of a sudden movement of the pump breaks while the pressure was being applied?

Answer. I think after a charge was on the hose, and the pump moved rapidly by its breaks, the tendency would be to burst the hose.

Interrogatory fourteenth. What size nozzle should be used in testing leather fire-hose by open water pressure, applied by means of a steam fire-engine, for the purpose of ascertaining how much pressure
129 per square inch the hose will sustain without bursting, in order to have a fair test.

Answer. For a first-class engine not less than an inch and a quarter; for the second-class engine not less than an inch-and-an-eighth nozzle.

Interrogatory fifteenth. Describe the nozzle and its use, and state, if you know, what sized nozzle is generally used with steam fire-engines at fires.

Answer. The nozzle is a piece of brass tube of various diameters to reduce the body of the stream to a given size; nozzles from an inch to an inch and a half are generally used at fires.

Interrogatory sixteenth. State whether in your opinion a test of leather fire-hose by water pressure applyed by means of a first-class steam fire-engine, a seven eighth-inch nozzle being used, would be a fair test. Give reasons for your answer, and explain the difference in effect upon the hose of using nozzles of different diameters?

Answer. I do not think a seven-eighth-inch nozzle would be a fair test, because the outlet would be too small for a first-class engine
130 to discharge her water, unless the relief valve was opened wide. If the valve would close at a high rate of speed, a seven-inch nozzle being used, something would give way, and this would be the hose.

Interrogatory seventeenth. Do you know or can you set forth any other matter or thing which may be a benefit or advantage to the parties at issue in this cause, or either of them, or that may be material to the subject of this, your examination, or the matters in question in this cause? If yea, state forth the same fully and at large in your answers.

Answer. I know nothing more than to state that one trial of a hose is not considered as a fair test; I have seen hose burst on first trial, and the seam taken out, and then the hose would stand much more pressure.

Cross-interrogatory. Have you ever been in the employ of plaintiff? If yea, when and how long?

Answer. I never have.

Cross-interrogatory second. Where did you see hose manufactured by Greer for the city of Chicago? When did you see it? Do you know that the hose you saw was ever delivered or tendered to the city of Chicago? How do you know it? Answer fully. State all the circum-
131 stances in regard to the delivery or tender of the hose described in your direct examination.

Answer. In the latter of August, and at various times during that month, I saw the hose in Mr. Greer's establishment. I saw this hose baled up and marked for the fire marshal of the city of Chicago. I never saw it delivered or formally tendered.

Cross-interrogatory third. If you ever saw said hose tested, state particularly the place and the time of the said test, and by whom it was made. Give the date of said tests.

Answer. The said hose was tested in Queen street, below Second, in this city, on the 7th November, 1867, and 4th of December, 1867, by Mr. Pigeon and myself at the Weccacoe Engine Co.

Cross-interrogatory fourth. When was the hose you saw tested sent to Chicago?

Answer. I do not know that it was sent to Chicago.

Cross-interrogatory fifth. How many pieces should there be in your judgment in a fifty-foot length of hose, to stand a pressure of two
132 hundred pounds on the square inch?

Answer. I should think ten or eleven, according to the size & weight of the leather.

GEO. W. KURTZ.

133 STATE OF PENNSYLVANIA, *City of Philadelphia, ss:*

I, Edward Shippen, a commissioner for the State of Illinois residing in said city, being the commissioner named in the annexed commission, do certify that the said witness, George Kurtz, prior to the taking of said deposition, and on the 9th day of January, 1868, was by me duly sworn to testify to the truth in relation to the matter in controversy in the suit mentioned in the caption to these depositions and in the enclosed commission, so far as he might be interrogated in relation thereto, and that said deposition was on the 9th day of January, 1868, at said city, taken and reduced to writing, and signed and sworn to in my presence by said witness.

Given under my hand and seal this 9th day of January, 1868.

[SEAL.] EDWARD SHIPPEN,
Commissioner.

134 *Deposition of Joseph Pigeon.*

The said Joseph Pigeon, being first duly sworn, doth depose and say in answer to the several interrogatories, as follows, viz:

Interrogatory first. What is your name, occupation, and place of residence?

Answer. My name is Joseph Pigeon; I am one of the engineers of the Weccacoe Steam-engine Fire Company; I live at No. 3 Baltic Place, in the city of Philadelphia.

Interrogatory second. Do you know the parties to this suit, or either of them, and how long have you known them respectively?

Answer. I only know Mr. Greer; have known him about four years. I never saw Chicago, but I have heard of it.

Interrogatory third. Do you know of any leather fire-hose having been manufactured by Samuel Y. Greer, the plaintiff in this suit,
135 for the city of Chicago, the defendant? If yea, have you ever seen said hose or any part thereof?

Answer. I do know of fire leather hose manufactured by Samuel Y. Greer for the city of Chicago; I have seen this hose.

Interrogatory fourth. State whether you are a judge of the quality &

workmanship of leather fire-hose; and, if yea, state what & how long experience you have had, if any, to qualify you to judge of such hose; and if you have seen hose manufactured by Samuel Y. Greer for the city of Chicago, please describe the same, as to kind and quality of the material in said hose, and also as to the workmanship.

Answer. I am a judge of the quality and workmanship of leather fire-hose; I have had eighteen years' experience. During this time I have manufactured and also used it for various purposes. The hose I saw manufactured by Samuel Y. Greer, for the city of Chicago, had in it the best quality of leather, and it had the best of workmanship in it.

136 Interrogatory fifth. Do you know how leather fire-hose should be tested for the purpose of ascertaining how much water pressure to the square inch it would sustain without bursting? If yea, state what would be a fair test of leather fire-hose.

Answer. Leather fire hose should be tested in the way it is intended to be used, by placing it in a first class steam fire-engine, with open pressure, with nozzle from one inch and an eighth to an inch and a quarter in diameter, and a pressure of one hundred and twenty pounds of steam; water pressure should be not more than one hundred and fifty pounds.

Interrogatory sixth. Do you know what is meant by cap pressure? If so, describe it, and state whether cap water pressure, applied either by means of a steam fire-engine or by means of a hand-pump, such as is used for testing iron water-pipes, would be a fair test of leather fire-hose. Give reasons for your answer.

Answer. I do; cap pressure is when the end of the has the cap screwed on instead of the open nozzle. I do not think that cap pressure is a fair test for fire leather hose; because fire hose is not in-

137 tended to have water forced into it without an outlet. Cap pressure is unnatural; the pressure is not equally distributed over the hose; the cap being on the end of the hose, a certain amount of compressed air is in one end; that part of the hose having the compressed air in it does not receive so much force as that portion containing water, for the reason that the compressed air is elastic, while water is not.

Interrogatory seventh. What size nozzle should be used in testing leather fire-hose by open water pressure, applied by means of a steam fire-engine, for the purpose of ascertaining how much pressure per square inch the hose will sustain without bursting in to have a fair test?

Answer. A nozzle of one and one-eighth inch to one and a quarter inch wide, a water pressure of one hundred and fifty pounds to the square inch. This would be a fair test.

Interrogatory eighth. Describe what the nozzle is, and state, if you know, what sized nozzle is generally used with steam fire-engines at fires.

138 Answer. The nozzle, the brass tube attached to the end of the hose as a water outlet. The nozzle generally used with fire-engines at fires is about one and an eighth and one and a quarter inch in diameter at the outlet; though greater is sometimes used, and sometimes a nozzle is off entirely.

Interrogatory ninth. State whether in your opinion a test of leather fire-hose by water pressure, applied by means of a first-class fire-engine, a seven-eighth-inch nozzle being used, would be a fair test. Give reasons for your answer, and explain the difference in effect upon the hose of using nozzles of different diameters.

Answer. I do not think such a test would be fair, because the outlet is too small for the capacity of the pumps of a first-class steam fire-

engine. The smaller the nozzle the more severe is the pressure upon the hose.

Interrogatory tenth. In applying to leather fire-hose water pressure, by means of a steam fire engine, what effect upon the hose, if any, would a sudden movement of the throttle have or be likely to have while the pressure was being applied?

139 Answer. The hose would burst before the water got half-way in its length.

Interrogatory eleventh. Suppose leather fire-hose, capable of sustaining a water pressure of two hundred pounds per square inch, applied by means of a steam fire-engine properly managed, at what degree of pressure per square inch could such hose be bursted by a sudden movement of the throttle?

Answer. I suppose it might be burst at a pressure of about one hundred and sixty or seventy pounds.

Interrogatory twelfth. If you say in answer to the previous interrogatory that you have seen hose manufactured by Samuel Y. Greer for the city of Chicago, state whether you have ever seen the said hose or any part thereof tested. If yea, when, where, and by whom was the said test made, publicly or otherwise; and who were present to the best of your recollection. State also how said hose was tested; and, if by water pressure, how the pressure was applied; and if it was applied by means of a steam fire-engine, describe the engine, giving its make and capacity; also the condition of the guage of the engine, and how it was managed during the test of the hose. State also how much pressure per

140 square inch was applied to the hose and the result. What is the effect upon the hose?

Answer. I have seen said hose referred to tested on the 7th of Nov., 1867, and again on the 4th of December, 1867, in Queen street, below Second, in front of the Weccacoe Fire-engine Company's house. It was tested by myself, assisted by Mr. George Kurtz. It was public. Mr. Parry was present; Mr. Hindemyre, Chief Engineer Lyle, Mr. Greer, Mr. Rascal, and a number of others were present. It was tested by open pressure, with an inch-and-an-eighth nozzle; pressure was applied gradually by steam fire-engine of Amoskeag make, having two four-and-three-quarter pumps, two eight-inch steam cylinder, with twelve-inch stroke; the guages were a little short; the pressure under guage was two hundred and fifteen pounds, being twelve pounds out of the way, making an actual pressure of two hundred and three pounds on the first trial. On the second testing the guages had been tested by two competent steam-guage inspectors, and at this trial they were correct, and the guage showed a pressure of two hundred and ten pounds. The effect upon the hose was imperceptible. The hose stood test well—as good as I

141 ever saw, no damage or leakage or swelling of the hose, nor sweating.

Interrogatory thirteenth. Do you know or can you set forth any other matter or thing which may be a benefit or advantage to the parties at issue in this cause, or either of them, that may be material to the subject of this, your examination, or the matter in question in this cause? If yea, set forth the same fully and at large in your answer.

Answer. I do not consider one trial fair; several trials are generally given to leather fire-hose when steam fire-engines are used. I remember nothing else.

Cross-interrogatory first. Have you ever been in the employ of the plaintiff? If yea, when and how long?

Answer. I never have been in his employ.

Cross-interrogatory second. When did you see hose manufactured by Greer for the city of Chicago? Where did you see it? Do you know that the hose you saw was ever delivered or tendered to the city of
142 Chicago? How do you know it? Answer fully. State all the circumstances in regard to the delivery or tender of the hose described in your direct examination.

Answer. I saw the hose manufactured by Greer for the city of Chicago, in November last, at his manufactory; I know nothing the delivering or tendering of the hose to the city of Chicago; it had just been unbaled.

Cross-interrogatory third. If you ever saw said hose tested, state particularly the place and time of said test, and by whom it was made. Give the date of said test.

Answer. The test in Queen street, below Second, on 7th of November, 1867, & the 4th of December, 1867; it was made by myself and Mr. Kurtz.

Cross-interrogatory fourth. When was the hose you saw tested sent to Chicago?

Answer. I don't know that it was sent to Chicago.

143 Cross-interrogatory. How mary pieces should there be in your judgment in a fifty-foot length of hose, to stand a pressure of two hundred pounds on the square inch?

Answer. I do not know that if ary difference, how many. It depends on the size of the hide & quality of the leather; they generally run from ten to eleven.

JOS. A. PIDGEON.

144 STATE OF PENNSYLVANIA, *City of Philadelphia, ss:*

I, Edward Shippen, a commissioner for the State of Illinois residing at said city, being the commissioner named in the annexed commission, do certify that on this 10th day of January, 1868, and before the taking of his deposition, the said witness, Joseph Pidgeon, was by me duly sworn to testify the truth in relation to the matter in controversy in the suit mentioned in the caption to these depositions and in the enclosed commission, so far as he might be interrogated in relation thereto; and that the said deposition was, on this 10th day of January, 1868, at said city taken and reduced to writing, and signed and sworn to by the said witness in my presence.

Given under my hand & seal this 10th day of January, 1868.

[SEAL.] EDW. SHIPPEN,
Commissioner.

145 *Deposition of Edward Schmidt.*

The said Edward Schmidt, being first duly sworn, doth depose and say in answer to the several interrogatories, as follows, viz.:

Interrogatory first. What is your name, age, occupation, and place of residence; and how long have you been engaged in your present business; and how much experience have you had therein?

Answer. My name is Edward Schmidt; I am a machinist & manufacturer of steam-guages; I live at 315 Vine street, in the city of Philadelphia; I have been fifteen years a machinist, of which time I have manufactured steam-guages for eleven years.

Interrogatory third. Have you had any, and, if so, what and how long, experience in testing leather fire-hose; and do you know how such hose should be tested? If yea, state what would be a fair test of leather fire-hose.

146 Answer. I have not had much experience in testing leather fire-hose. I have tested fire leather hose several times. Such hose should be tested on a steam fire-engine of first class, with a nozzle of an inch and a quarter; the throttle of the engine must be opened very slowly, to let all the air escape through the nozzle; the steam should be worked up gradually to the amount of pressure (E. S.) required.

Interrogatory fourth. State if you know what cap pressure is; also, whether, in your opinion, an application to leather fire-hose of cap pressure would be a fair way in which to test such hose. Give your reasons for it.

Answer. Cap pressure is when the cap is on the end of the hose while the power is applied; the nozzle being off, cap pressure would not be a fair test of leather fire-hose; when the cap is on, the pressure is latent, and something must give way under heavy pressure. Cap pressure is from about ten to fifteen pounds greater pressure on the hose than open pressure. Cap pressure is harsh and produces concussions, while open pressure does not.

Interrogatory fifth. State if you know what open pressure is, and the difference between open and cap pressure; also, whether a test of leather fire-hose, by the application thereto of open water pressure, by means of a steam fire-engine, properly guaged and managed, would or would not be a fair test of such hose (E. S.)

147 Answer. Open pressure is a moving pressure through the hose and through the nozzle; the cap being on or off makes the difference between open and cap pressure. A test of leather fire-hose, by the application of open water pressure, by means of a steam fire-engine, probably guaged and managed, would be a fair test of such hose.

Interrogatory sixth. In testing leather fire-hose, by applying thereto water pressure, by means of a steam fire-engine, state whether the fairness and accuracy of the test depends in any degree upon the management of the engine's throttle. If yea, how? Explain fully.

Answer. The fairness in such testing does depend upon the management of the engine throttle. If the throttle is opened suddenly, the hose will be burst before the water comes out of the nozzle; if opened gradually and carefully, it will not so burst. The reason of the bursting with sudden opening of the throttle is, that the air cannot escape fast enough through the nozzle, and therefore the pressure on hose is to great, and is what is called back pressure.

Interrogatory seventh. In testing leather fire-hose, as supposed in the last interrogatory, state what would be, or would be likely to be, the effect upon the hose of a sudden movement of the throttle.

148 Answer. In that event the hose would burst.

Interrogatory eighth. Suppose leather fire-hose which, if tested in a fair manner, would stand a water pressure, applied by a steam fire-engine, of two hundred pounds to the square inch, at what pressure could such hose be burst by a sudden movement of the engine's throttle?

Answer. At about one hundred and fifty pounds to the square inch, and even lower.

Interrogatory ninth. State, if you say that you have seen leather fire-hose, manufactured by Samuel Y. Greer for the city of Chicago, whether you know of the said hose or any part thereof having been tested; and, if yea, state whether you were present when the same was tested, and what other persons were, to the best of your recollection. Also, when, where, and under what circumstances said hose was tested; state also, how it was tested, and the result; that is, the effect upon the hose.

Answer. I have seen the leather fire-hose, manufactured by Samuel Y.

Greer, for the city of Chicago, tested. I was present at the test. I saw Samuel Y. Greer, Mr. George Kurtz, and Mr. Stenley, and Mr.
149 Pigeon, and a number of others whom I do not remember. This was on December fourth last, in Queen street, below Second. It was tested in front of the Weccacoe Fire-engine Co.'s house. The hose was attached to a steam fire-engine, with open pressure, and nozzle of one and an eighth inch. There was about from one hundred and twenty to one hundred and forty pounds to the square inch of boiler, as appeared by the guage. The water pressure was from two hundred to two hundred ten pounds to the square inch of hose. The engine throttle was managed carefully. The hose (E. S.) stood it well; there was no leakage or bursting.

Interrogatory tenth. If you say, in answer to the last interrogatory, that the said hose was tested by the application of water pressure, by means of a steam fire-engine, or, if it was, in fact, so tested, describe the engine, giving its make (E. S.) and capacity; also, the condition of the guages of the engine at the time the test was made; also, the amount of pressure to the square inch applied to the hose in making said test.

Answer. The engine was a first-class Amoskeag make, having two eight-inch steam cylinders, eight-inch diameter, twelve-inch stroke; two pumps of four-and-three-quarter-inch diameter and twelve-inch stroke; the guages were two, both running guages, and in good condition; the pressure upon the hose was from two hundred to two hundred and
150 ten pounds to the square inch.

Interrogatory eleventh. If you say that the said hose was tested by an application of water pressure, by means of a steam fire-engine, please state, if you know, whether or not the guage of the engine used in making the test was itself tested (E. S.) prior to the time of testing the hose, and, if so, how long before; and who tested the said guage; and in what condition was it.

Answer. I tested the guages about two weeks before I tested the hose, and found them incorrect; they were then put in complete order, and I tested the same guages immediately after the hose was tested and found the water-guage correct at two hundred pounds.

Interrogatory twelfth. Please explain the peculiar construction of fire-engine guages and their use; state also whether the running of a steam fire-engine for a considerable length of time would have or would be likely to have any, and, if so, what effect upon the guage.

Answer. The guages were running guages, thus constructed, one glass tube inside of another glass tube, the inside tube being in a conical form and capped on the top, the mercury is placed in the inside tube, and over the mercury the tube is filled with glycerine. The pressure
151 acts from the top of the guage upon the glycerine and thence upon the mercury, pressing it into the conical tube. The running of a steam fire-engine for a considerable length of time would have an injurious influence upon the guage, so that it would not register properly.

Interrogatory thirteenth. State whether, to make a fair and accurate test of leather fire-hose by water pressure, applied by means of a steam fire-engine which had been used, it would or would not be necessary to test the guage of the engine before testing the hose, and would a test of such hose, made by means of an engine which had been without previously testing the guage, be reliable?

Answer. It would be necessary in such case to test the guage of the engine before testing the hose. (E. S.) A test of the hose without a previous testing of the guage of the engine, under the case as stated, would not be reliable.

Interrogatory fourteenth. Do you know or can you set forth any other matter or thing which may be of benefit or advantage to the parties at issue in this cause, or that may be material to the subject of this, your examination, in the matter in question in this cause? If yea, set forth the same, fully and at large, in your answer.

152 Answer. I do not know anything further, except that a single of leather fire-hose is not a fair test. It is very possible that a natural defect might exist in the hose which the manufacturer could not observe; now, if such piece of hose was tested the defect might at once be evident, and, if repaired, might be also rendered capable of the severest test, and it does not follow that if a defect of this kind is found in one piece that the rest is like it.

Cross-interrogatory first. Have you ever been in the employ of plaintiff? If so, when and how long?

Answer. I have never been in the plaintiff's employ.

Cross-interrogatory second. Where did you see hose manufactured by Greer for the city of Chicago? When did you see it? Do you know that the hose you saw was ever delivered or tendered to the city of Chicago? How do you know it? Answer fully. State all the circumstances in regard to the delivery or tender of the hose described in your direct examination.

Answer. I saw the hose referred to in the early part of November last, in Mr. Greer's shop, and I saw it again when tested on 4th of December last. I do not know whether or not the hose I saw was delivered or tendered to the city of Chicago. The hose I saw had a screw to

153 it which would render it unsuitable for Philadelphia use.

Cross-interrogatory third. If you ever saw said hose tested, state particularly the place and time of said test, and by whom it was made. Give date of said test.

Answer. I saw the hose tested in Queen street, below Second, on the 4th of December [4th] last. It was made by the engineer of the Weccacoe Fire-engine Company, Mr. Pigeon, assisted by George Kirk and others.

Cross-interrogatory fourth. When was the hose you saw tested sent to Chicago?

Answer. I do not know.

Cross-interrogatory fifth. How many pieces should there be, in your judgment, in a fifty-foot length of hose, to stand a pressure of two hundred pounds on the square inch?

Answer. According to the size of the hides—about from ten to eleven or twelve pieces.

EDWARD SCHMIDT.

154 STATE OF PENNSYLVANIA, *City of Philadelphia, ss:*

I, Edward Shippen, a commissioner for the State of Illinois resident at said city, being the commissioner named in the annexed commission, do hereby certify that the said witness, Edward Schmidt, prior to the taking of said deposition, was by me duly sworn to testify to the truth in relation to the matter in controversy in the suit mentioned in the caption to these depositions and in the enclosed commission, so far as he might be interrogated in relation thereto, and that said deposition was, on the 10th day of January, 1868, at said city taken and reduced to writing, and signed and sworn to by said witness in my presence.

Given under my hand and seal this 10th day of January, 1868.

[SEAL.] EDW. SHIPPEN, *Commissioner.*

155 *Deposition of Albert Forepaugh.*

The said Albert Forepaugh, being first duly sworn, doth depose and say in answer to the several interrogatories, as follows, viz:

Interrogatory first. What is your name, age, occupation and residence?

Answer. My name is Albert Forepaugh; I am thirty years of age; I am a tanner; and live at Cheltenham, Montgomery County, Pennsylvania.

Interrogatory second. Do you know the parties to this suit, or either and which of them, and how long have you known them respectively?

Answer. I know Mr. Greer for three years.

Interrogatory third. State what your present business is, and how long have you been engaged in said business; also, whether you are a judge of fire-hose leather; and, if yea, what and how long experi-
156 ence you have had to qualify you to judge of such leather; also, whether you have had any experience in tanning fire-hose leather; and, if so, how much and how long experience.

Answer. I am a tanner of oak tanned hose, band, and sole leather, and have been engaged in that business for seven years. I am a judge of fire-hose leather, having had seven years' experience as a manufacturer of the same as a tanner.

Interrogatory fourth. Do you know of the plaintiff, Samuel Y. Greer, having manufactured leather fire-hose for the defendant, the city of Chicago? If yea, have you ever seen said hose or any part thereof, and if you have seen it please state the kind and quality of the leather in the said hose; also the kind & quality of the workmanship of the said hose. Answer fully and particularly, describing the hose.

Answer. I know that Samuel Y. Greer manufactured leather fire-hose for the city of Chicago. I have seen this hose; the quality of the leather in this hose was the best oak tannage; the workmanship of the hose was of the best character, and in my judgment it could not be better.

Interrogatory fifth. Do you know or can you set forth any
157 other matter or thing which may be a benefit or advantage to the parties at issue in this cause, or either of them, or that may be material to the subject of this, your examination, on the matters in question in this cause? If you set forth the same fully and at large in your answer?

Answer. I know of nothing else that I remember.

Cross-interrogatory first. Have you ever been in the employ of the plaintiff? If so, when and how long?

Answer. I have not been in his employ.

Cross-interrogatory second. When did you see the hose mentioned in interrogatory fourth? Where did you see it? Do you know that the hose you saw was ever delivered or tendered to the city of Chicago under Greer's contract? If yea, how do you know it? State fully the circumstances in regard to the delivery or tender of the hose described in your answer to interrogatory fourth.

Answer. I saw the hose at various times during the month of last August and September, at Greer's shop; some of the hose referred to I saw marked to U. P. Harris, fire marshal, at Chicago. Some
158 was boxed and some baled; and thus marked it was sent to the Penn'a Central R. R. depot for shipment to Chicago. I know nothing else about the tendering of the hose to the city of Chicago.

Cross-interrogatory third. If you ever saw said hose tested, give particularly the place and date of said test.

Answer. I never saw it tested.

Cross-interrogatory fourth. State if you know when the hose you saw tested was sent to Chicago.

Answer. I never saw it tested. The hose I saw boxed & baled was shipped in the month of August last.

Second cross-interrogatory fourth. How many pieces in your judgment should there be in a fifty-foot length, to stand a pressure of two hundred pounds on the square inch?

Answer. It depends in my judgment upon the quality and weight of the leather—say from nine to eleven pieces of leather.

159 Cross-interrogatory fifth. Is not double-rivetted leather fire-hose weakened by placing the second row of rivets directly behind the first row; and is it not the usual method of constructing hose to place a second row behind the interval between the rivet and the first row?

Answer. I think the hose might be weakened by placing the second row of rivets directly opposite the first row. The usual method of constructing hose is to place a second row behind the intervals, and the hose I saw was so constructed.

ALBERT FOREPAUGH.

STATE OF PENNSYLVANIA, *City of Philadelphia, ss:*

I, Edward Shippen, a commissioner for the State of Illinois, resident at said city, being the commissioner named in the annexed commission, do certify that the above-named witness, Albert Forepaugh, prior to the taking of his aforesaid deposition, and on the 18th day of January, 1868, was by me duly sworn to testify the truth in relation to the matter in controversy in the suit mentioned in the caption to these depositions and in the enclosed commission, so far as he might be interrogated thereto, and that the said deposition was, on the 18th

160 day of January, 1868, at the said city of Philadelphia, taken and reduced to writing, and signed and sworn to by said witness in my presence.

Given under my hand and seal this 18th day of January, 1868.

[SEAL.] ED. SHIPPEN, *Commissioner.*

161 The plaintiff here introduced the communication from Ward, the sec'y of board, accepting Greer's proposal, as follows:

Commissioners: T. B. Brown, Pres't; A. D. Titsworth; F. Gund; E. P. Ward, Sec'y.

OFFICE OF THE BOARD OF POLICE,
No. 142 MADISON ST., SECOND FLOOR,
Chicago, Ill., July 27th, 1867.

SAMUEL Y. GREER, Esq.:

SIR: At a special meeting of this board held this day for the purpose of examining proposals and awarding the contracts for 13,000 ft. of leather hose for the use of the fire department, according to specifications proposed, the same was awarded to you.

Respectfully, yours,

E. P. WARD, *Sec'y.*

It was proved & admitted that the board of police commissioners had power to contract for fire-hose, and then the plaintiff rested.

The defendant then introduced his testimony, as follows:

U. P. Harris, a witness called on behalf of the defendants, having been duly sworn, was examined in chief by Mr. Davis, and testified as follows:

162 Q. What is your business now?
A. Fire marshal.
Q. Are you now in the employ of the city?
A. I am at present.
Q. How long have you been so?
A. About ten years last term.
Q. How long have you been connected with our fire department or any fire department.
A. I have been thirty-four years connected with a fire department; twenty-one of it in Chicago.
Q. You have been most of your life connected with the business of fire department?
A. Yes, sir.
Q. Do you consider yourself a competent judge in regard to testing the quality of hose?
A. I so consider it myself.
Q. Had you anything to do with the publication of the notice published and put here in evidence in this case, in regard to this thirteen thousand feet of hose?
A. I had.
Q. State your connection.
A. I believe I wrote that notice myself; submitted it to the board of police; the notice was copied from a similar notice published in the Boston papers; thought that was about the best manner that I could have of advertising.
Q. What were the circumstances under which that notice was published?
163 A. The circumstances were these: We had been deceived in the best lot of hose——
(Objected to as immeterial.)
By the COURT. I don't see how it is material. For what purpose do you propose to introduce it?
By Mr. DAVIS. I want to show that Mr. Raster is entirely under a misapprehension in regard to the statement he made here, that the board of fire commissioners stated that they were not particular about getting the hose on the first of September. I want to show they were particular about its being finished promptly; that the city needed it.
By the COURT. It would not be proper that the pl'ff should be bound by whatever action took place before he came here.
Q. This public notice is the one that you referred to?
A. Yes, sir; it is a printed copy of the same.
Q. You had this inserted in the Chicago and Boston papers?
A. I had it inserted in the Chicago paper; it was copied from the minutes of the Boston common council, the Boston fire department in advertising for their hose.
Q. Is this, the size hose and coupling advertised here, used in any city?
A. Boston and New York.
Q. Has the city had other hose made of the same size?
A. Never; except it was a combination or rubber.
Q. Consider this the usual size in the city?
164 A. After we wrote the notice, it didn't describe the size of the leather. It describes two-and-a-half-inch opening; and, if I understand the witness, the difference in the coupling was merely in the thread, not in the size. The object is understood, I believe—we find difficulty in connecting. A large thread connects quicker than a small one.

Q. Is there any special reason why different hose should be used in Chicago than in Philadelphia?

A. Never gave it any thought before; never stopped over in Philadelphia but twice, and that was in regard to steam-engines.

Q. How is it with regard to hydrants in this city?

(To this question the counsel for the pl'ff objected, which objection was overruled by the court, to which ruling of the court the plaintiff's counsel then and there excepted.)

A. The hydrants in our city are a great distance apart, being on an angle of the corners. In most other cities they are nearer together, and relieves the pressure on the hose. By a long line of hose we always get a greater amount of pressure, and therefore we always make a contract that will cover that. A hundred and fifty pounds pressure may answer any nozzle in Philadelphia, and would not be any greater strain than a two-hundred-pound pressure in this city.

Q. Do I understand you that two-hundred-pound pressure is about the average?

165 A. The idea is, in order to do our service, it being so much harder and difficult. The same hose being used here, does five times the service of hose in New York, Philadelphia, or any other place, being used so much more. They have to stand an unusual pressure, and we wanted the best quality of leather hose made with particular reference to that.

Q. Do these specifications cover that idea?

A. Yes, sir.

Q. Then I understand you to say that two hundred pounds is not an unusual amount?

A. For leather hose.

Q. That would be ordinary amount of pressure?

A. The ordinary amount that hose is calculated to stand is 150 pounds in usual service.

Q. Did you see Mr. Raster when he was here?

A. Yes, sir.

Q. Have any conversation?

A. I heard him in the presence of the board.

Q. What conversation did you hear?

A. There was agents here of different parties. They were called in; all were called before the board while in session, and heard each of the bids read. They were then asked to withdraw, and examined separately as to the make of their hose; were requested to particularize the items, the kind and cost of the leather, the rivets, and one thing another, the freight and government taxes. Mr. Raster, in his turn, came and stated as a reason when the question was asked. The first question I

166 recollect was, "How can you make the hose at such a price as you have offered?" Said he, We have got a large quantity of leather on hand; business is now dull, and we want Chicago as a card. It will get us western trade. We don't expect to make any money; but the advertisement to us of selling Chicago hose in the West is the same as an advertisement. The question was then asked, We wanted the hose by the first of September. How can you deliver this hose here? Can you deliver that so quick? He gave as a reason he had this leather on hand, and he would return home and deliver two thousand feet a week until it was finished; and he thought they could get it all done, by putting on extra hands, by the first of September.

Q. This conversation was had with Mr. Raster in your presence?

A. Yes, sir.

Q. Did Mr. Raster examine any hose that the city had on hand?

A. I wasn't in his company outside of the office. He came in with a letter of introduction, and said he would call again previous to this meeting; but I didn't see him only at this meeting. After he got the contract I went and had one of the coupling cut off of some of our old hose, and gave him a sample.

Q. Was that the same as the advertisement?

A. Yes; the object was to have the extension extend up inside, with a cap and band on the outside.

Q. Explain that once more.

167 A. The band on the outside is about two inches, if I recollect right, and the inside thread or smallish pieces of brass, copper, or whatever the composition is, with a ring around it, and this band comes on this leather and riveted there, (illustrating.) The object was that in case the engine or anything should run over it would press down upon that band it would be able to stand the jar and protected the hose; at least, that was the experience of the Boston people and those of other cities; that is the way it was different from what Philadelphia used.

Q. You considered it better?

A. I considered it was better.

Q. Was it adopted by your recomendation to the board?

A. Yes, sir; that is the reason it was done.

Q. How long has it been used here?

A. Some three or four years; three, I think it is; it may be longer, I can't tell about that; I never gave it particular thought.

Q. Did you see the hose when it arrived here?

A. I did.

Q. Were you present at the testing of it?

A. Yes, sir.

Q. State to the jury what you thought of the hose?

A. I will state in my way. I was at the fire in State street, and gave an order to a hose-cart driver to go along down to the engine-house and get hose; they went there and got a portion of this hose and brought it down. I forgot to state, it was previous to this test, two or three

168 days, they brought it down to a fire; that was only a small portion on the reel, may be six hundred feet, drawn from the Long John engine-house; previous to that from the fact I had a great deal of trouble, and the question arose, what is a fair test of hose; I found a great many objected to using a steam-engine on account of the throttle. I found almost universally practical men favored a cap and government pump, or one like the government uses in inspecting. I then went to Mr. , and borrowed his pump; since then we have hired it; has had it removed over, and had a government gauge sent for and attached to it and tested it with this in first place. We had the hose fastened and then attached this cap.

Q. What day was it that you made the test of this hose?

A. I think it was the 28th or 9th of August.

Q. How much of it did you test?

A. We tested three lengths that way.

Q. Did you test more than one way?

A. Yes, sir; by hydraulic pump.

Q. Tested one by a hydraulic pump?

A. Tested this by a hydraulic pump, and then the board said to me, Somebody might prefer a steam-engine; said I, This is a fair test; I said, What engine will you have? And they said, Some engine that will test it. I was under the charge of the board. If they ordered me to send

for an engine, my duty is to do it. I had an engine brought down there without ever seeing the engineer or any one connected with it. I went immediately up to the engineer, and told him, I want you
169 to start this engine slowly and moderately, and work it up steadily; so far as I know he did so.

Q. You were present?

A. I was present, and went and examined the hose, as this pressure was going on, with the commissioners.

Q. How did this hose stand the test of that hand-pump?

A. I didn't witness the first length; I believe I witnessed three lengths; one of the best lengths bursted at 180, one at 160 and 140, and another engine bursted it at 100 and 140, as near as I can recollect—what I heard.

Q. Can you state the average pressure?

A. That is the pressure.

Q. Did you strike and average?

A. It would be 160, from 140 to 180; let me explain; on the steamer we tried the hose and then removed the leather and inserted a piece of combination between either length of hose, a section of fifty feet, a length as we term them, between the engine and the leather, between the engine and Mr. Greer's hose. The leather hose bursted beyond the combination, the combination stood where the leather hose had formly bursted. The commissioners came to me and said, Stop; Mr. Greer might think we were ill-using him. Then that night there was a fire occurred in a liquor store in the ally between Lake street and Water street. My condition was such that I needed hose and must have it, whether it damaged his contract or anybody else. I sent up for these hose and brought them down, I told the men to get the hose. I didn't know where they
170 put that; it was told to me by the fireman of the engine that this hose burst.

Q. Was this hose put upon more than one engine that night?

A. Two.

Q. Do you know of the hose bursting upon this engine to your own knowledge?

A. No, sir; they reported this to me. I was engaged; there was a little liquor going up into air and I had no time to look at the hose.

Q. There was a great deal of property in danger?

A. Very great deal; it was in the center of a brick row; I had some parties come to me in regard to the matter, to get my testimony against the city in regard to the hose we used; in regard to the damage.

Q. Because the hose was insufficient?

A. Yes, sir.

Q. That was the same night the test was made?

A. Yes, sir.

Q. There has been some talk about this cap trial—let us come back to that. How do regard that for fairness?

A. I consider it not a fair trial.

Q. You have had a great deal of experience in regard to hose?

A. I have had a great deal of experience in hose around the country.

Q. As much as that witness whose depositions you have heard read?

A. I think as much as any other man. It has been my study.
171 As I was going to remark to you, it had come to get around in purchasing hose, and I have got the blame that we had, because we had accepted hose without this test, and hose-makers thought we ought not to take them and use them at fires, and grumble afterwards to pay them. It didn't suit me, from the fact that I had had hose from the

same manufacture and brand. I consider this test unfavorable to the hose.

Q. Describe to the jury how the trial was made.

A. A suction, hydraulic pump was attached to her; men were put at each end of this brake, and we found upon a test with a little nozzle, that it was impossible for us to get up a pressure of two hundred pounds with this hydraulic pump; we then applied this cap to the end of the hose, and we found that it burst. In our testing of hose since then we have had a little jet or faucet, we test the hose by pumping gradually to get the air all out and then charge it. I didn't witness the first trial; I was in New York during the first trial; I have seen a trial since of hose manufactured by Gage & Gates, and that stood the test.

(Objected to.)

By the COURT. If you wish to examine Mr. Harris as an expert, he can state anything he has seen in regard to testing hose.

Q. I want to ask you a little more about testing by means of [of] this hydraulic pump. You say you had difficulty in having the nozzle opened in getting up a pressure of two hundred pounds?

172 A. Yes, sir.

Q. Was it possible to get up a pressure of two hundred pounds?

A. No, sir.

Q. How large apperture did you have open?

A. Small.

Q. When you closed that nozzle was any air in there?

A. No, sir.

Q. How was the force applied?

A. Hand-power.

Q. Was the force applied with violence or gradually? State [state] to the jury how the pressure was got up in that respect.

A. After we got to work we got up to 115 to 120 with a little degree of vigour, but about the time we got up to 140, the men were about exhausted, they had to push all the way down and way up; we had one hose on at each time.

Q. Are you sufficiently acquainted with the pressure by water to state how 150 to 200 pounds of pressure would act?

A. I prefer somebody else to state that; my experience of it is, it acts steadily; it is diffused throughout; it is a steady pressure; through an opening it is not.

Q. How did the apperture in the pump you used correspond with the size of the hose?

A. Very nearly the same, we had to make a cap in order to make the thread connect with our opening, or a connection to fit the thread of our opening; I think it was a little smaller; come to recollect—smaller

173 than the opening.

Q. Was that hydraulic pressure favorable?

A. I think it was.

Q. Reccolect how much pressure it stood?

A. One length on a cap pressure stood 180 pounds, and the highest I can recollect was 140 on the engine, and some at 100—one at 100, rather.

Q. Do you know anything about the gauge—that is the name of the engine you used?

A. Amoskeag engine; J. B. Rice.

Q. Do you know anything about the gauge of that engine when this experiment was made?

A. It is customary for the engineer to report whenever anything is out of order.

Q. Do you know whether that engine had been inspected?

A. My opinion was that this trial was so much fairer than the engine that I didn't expect there would be any objection, so that no inspection had been done.

Q. What is your opinion about this hose from your examination of it?

A. My opinion was derived from what was said by the parties with me.

By Mr. ADAMS. You need not state that.

WITNESS. I was going to state——

By the COURT. If there is anything you know of your own knowledge, state it.

A. It was my opinion they had got the length too long; it ran too much into the thin part of the hide; that was my opinion; in
174 order to get at it, I asked the opinion of others, which I shall not give.

Q. Did you examine how many lengths there was?

A. No, sir.

Q. I would like to have you state to the jury what the quality of the hose is?

A. My objection to the hose in the first place was the manner of putting in the rivets, one directly back of the other.

Q. State to the jury, from your experience, what your idea of it is, of its value to the city.

A. I think it would be a very good thing for sewerage purposes.

Q. Does it or does it not correspond with the specifications?

A. It does not.

Q. Will it bear a pressure of two hundred pounds to the square inch?

A. No, sir.

Q. And is it fit to use at fires?

A. It might be in a country town where they had no power.

Q. Where did this hose give way upon the test?

A. All that I noticed was near the rivets.

Q. Have you ever tested hose before you tested this?

A. I never tested hose; I never tested hose with regard to a stipulated pressure; I have seen hose that had been tested by hydraulic pressure and cap.

Q. What was the result?

A. The result was the hose stood 300 and 320 to 315 pounds.

Q. What hose was that?

175 A. That is cotton hose.

Q. Have you tested any since?

A. I have seen hose tested since.

Q. What sort of hose?

A. Leather.

Q. What was the impression?

Leather hose.

Yes, sir.

A. This stood, with very few exceptions; I suppose about one length out of twenty; I saw an opening where a rivet was not properly put in.

Q. How many pounds?

A. Two hundred; tested by a government agent, a government inspector.

Cross-examination by Mr. Adams:

Q. Have you ever had any experience in testing hose; that is, prior to this test that you say was made?

A. Never was at this city; the reason was the people didn't test them.

Q. Who was present at the time this test was made with the hydraulic pump?

A. Mr. Brown, Mr. James, and the curious portion of the whole fire department. I was afraid we were going to have a fire and some damage to property by reason of the desire to see the hose tested.

Q. Where was the test made?

A. In front of Long John engine-house on Lasalle street.

176 Q. This hydraulic pump you speak of is a pump that is used for testing iron pipes?

A. Testing flues and boilers and everything of that kind; I don't know what they use it wholly for.

Q. Do you know how long prior had the gauge been tested?

A. The question was asked whether the gauge was correct, and I was informed it was.

Q. Do you know whether it had been tested at all?

A. No, sir.

Q. So that to your own knowledge you can't tell whether the gauge was accurate?

A. If the gauge had been tested by any public party, I would have been apt to have known it.

Q. Don't you know that water is a liquid, and that it cannot be pressed in a mass?

A. I don't know whether it can be pressed in a mass or not; if it was calculated to stand two hundred pounds, and it did not go one hundred and fifty without it burst.

Q. But water in a cylinder, the cylinder being water-tight, put water into it until it is full, and then take a cover and put it right down on top of the water; can you press that water by applying any force without bursting the cylinder?

A. That answers the test question; if the pressure is only a hundred and twenty pounds, and it burst the cylinder, that would show that it could not go two hundred; the cylinder would not stand it.

177 Q. Can water be pressed?

A. No, sir.

Q. Suppose you were to apply a force of two hundred pounds to the top of the cylinder, would not that be like a dull blow inside of the cylinder?

A. I don't know; they worked with their hands; they could not give a dull blow; they had to work it up and push down; they could not get up to a pressure of two hundred pounds to give a dull blow.

Q. You told me after you put water in, the air was excluded, then the hose was charged?

A. I told you like this. We put water through to wet the hose; then we put on a cap and charged it with water. I don't pretend to say every speck of air was out, though I expect some of the air was forced out of the pores of that leather.

Q. You put the cap on first and then charged it with water?

A. We put some water in and wet it; I never apprehended there would be any trial about this, and I was not so particular as I would have been if I had been called upon.

Q. You didn't charge the hose with water before you put the cap on?

A. I think it was charged.

Q. Was it full?

A. There was not any amount of pressure on, but just wet
178 through.

Q. After you put the cap on you charged it from the pump?

A. Yes, sir; steadily.

Q. After the hose was completely charged with water and the cap was on, state whether or not, (water being incompressible,) with each movement of the handle of the pump, didn't it produce a sort of a dull blow on the inside of the hose?

A. I don't think so; I don't think it would be near so much of a blow as the working of an engine.

Q. Did it operate as a blow?

A. It operated that it would not stand the pressure; there was no blow.

Q. Who watched the gauge of the pump during the time of the test?

A. The commissioners.

Q. You say under that pressure it stood 140, 150, and 180?

A. I believe that was it, if I remember right; I never put down any figures or memoranda.

Q. After you got up to your highest pressure, and you found out then you could not go any further without putting more men on——

A. We had to put on more men to work the pump in all these cases; in every length we have tried we have to put on additional men to keep up the pressure; you will need all the men you can get.

Q. Did you ever test any hose with that sort of pressure before in your life?

A. No, sir; merely to test samples.

Q. You never did before?

179 A. Not for service.

Q. It was the same thing when this test was made, that was made and used for the fire?

A. Same thing.

Q. Do you know how much hose is at the depot now, sent here?

A. No.

Q. Do you know how many orders have been given about that hose?

A. I know men came to me with a freight bill to pay for the hose that was at the depot.

Q. Do you know how much it was?

A. I think it was five hundred feet.

Q. With regard to this engine trial, what engine did you try the hose with?

A. J. B. Rice.

Q. Was there a gauge on the engine?

A. A water and steam gauge both.

Q. How long had that gauge been on the engine?

A. I suppose it has been on all the time it has been running.

Q. Do you know whether that gauge had been tested at the time the trial of the hose was made?

A. No; I know it was not; I feel satisfied if it had been tested, they would have had to come to me for an order.

Q. How long before that was it done?

A. I can't recollect.

Q. Was it tried?

180 A. I don't recollect of but one gauge being out of order during the service of these engines, so I can tell.

Q. Hadn't that steam-engine, the J. B. Rice, been in service at fires before this test was made?

A. Yes, sir.

Q. And since this hose was tested?

A. Yes, sir.

Q. What is your recollection as to how long after the test of the hose was made on the steamer J. B. Rice, that the gauge was tested?

A. I can't say it ever was tested.

Q. You don't know whether the register was accurate?

A. I have every reason to believe it was; I should have heard of it else. I should think if the gauge worked well at fires it was all right; I believe it was all right.

Q. If the gauge had been on the engine for a long time, and it had been used at fires, you would not swear to the correctness of it?

A. I would not swear to it now.

Q. What size nozzle did you use?

A. Seven-eighths.

Q. Is that the size you ordinarily use at a fire?

A. No, sir.

Q. Have you ever used ⅞-inch nozzle with the steamer J. B. Rice at fires?

A. No, sir.

Q. Did that nozzle belong with the engine hose of the steamer J. B. Rice?

181 A. She came down there without any knowledge of the nozzle as I knew.

Q. Do you know where that ⅞-inch nozzle came from?

A. I don't; they didn't generally use a ⅞-inch nozzle.

Q. Don't you know that was one of your hand-engine nozzles that was used on this trial?

A. I don't know.

Q. Don't you know it was?

A. I judge it was.

Q. What size nozzle had you been using?

A. One and a quarter inch, with a first-class engine. Would you like to know why I didn't use one-and-a-quarter-inch nozzle at the test?

By Mr. ADAMS. If you will excuse me I will ask such questions as I want. You said something about faucets having been fastened to the pump.

A. Attached to the cap.

Q. That is a place on the hose?

A. On the end of the hose.

Q. What was that put on for?

A. The object was to save labor. The intention was to test every length of hose, and when Mr. Gates' hose came I understood they tested every length of hose, and since I have come back they have tested it. All you have to do is just turn a knob, same as you would gas, and the water is right there.

Q. Have you ever been engaged in the leather business?

A. I know nothing about leather; I can tell a thin piece from a thick one.

182 Q. You spoke about the hose bursting at the fire that night; was that the only hose?

(Objected to. Question waived.)

Re-direct examination:

Q. I would like to give Mr. Harris an opportunity to state why he used a seven-eighth-inch nozzle.

(Objected to.)

A. The reason why I used a $\frac{7}{8}$-inch nozzle was that I considered a steady stream of water could be got in that hose and get a steady pressure throughout the hose, and the hose would be less liable to burst. In order to get on a two-hundred-pound pressure on hose with a $1\frac{1}{4}$-inch nozzle, we had to run a boiler up to that height of steam that it was hard to do, and probably be injurious to the engine; another thing, there would be more jerking in the water as it was placed.

By Mr. Adams:

Up to what heighth did you run it; the gauge?

A. I didn't watch the gauge.

Q. Do you know what heighth steam you would have to run it up to to gain two hundred pounds water pressure?

A. Let me tell you; I was looking at the gauge; we run on the steamer, two hundred and forty pounds to get two hundred and ten pounds pressure.

Q. In order to get up a water pressure of 210-pounds, you had to get up a steam pressure of 240 pounds?

A. That is what we did.

183 E. S. Chesborough, a witness called on behalf of the defence, having been duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. What is your profession?

A. Civil engineer.

Q. How long have you been engaged in that?

A. About forty years.

Q. What is your position in the city?

A. City engineer.

Q. I would like to have you state to the jury if you have heard the statements of Mr. Harris in regard to hydraulic pressure or hand-pump as the use of hose; what, in your judgment, as a scientific man, would be the effect of such pressure?

A. There are two kinds of pressure mentioned, as I understood, by Mr. Harris; one was the pressure with the hose closed up at the end by means of a cap, and the other was with an open nozzle, which do you mean?

Q. I would like to have you explain both; take the cap pressure first.

A. I should say the effect would be according to the force put on the pressure, if you mean any number of pounds to the square inch.

Q. Mr Harris stated that the pressure was got in the first place by a cap of two hundred pounds to the square inch.

A. I should say it would burst a good many things; it depends entirely upon the strength of the material.

Q. If you were to test the strength of hose, what method would
184 you take?

A. I am accustomed to testing water-pipes; I have had a great deal to do with that; we use a pump—a small pump, described as a government pump—to test boilers.

Q. What is the reason?

A. Because it is the simplest mode of subjecting the pipe to a test, the pressure being uniform anywhere at the same level. If you fill a

pipe or cask with water and connect it with an engine of this kind, the pressure of the engine is communicated to all parts of the pipe or vessel, and it is uniform.

Q. Would the pressure be as great at the extreme end of the hose as near the engine?

A. If the end is closed up.

Q. It would bear perfectly even upon the hose all the way through?

A. Yes, sir.

Q. If there is a weak spot in the hose it would be developed?

A. That would give way.

Q. You heard the method Mr. Harris stated the board adopted?

A. I heard the description of the testing.

Q. What do you think of that cap pressure with a hand-pump?

A. As I never was employed to test fire-hose, if I had been called upon to test it, we might; my habit of testing water-pipes has
185 been by this method; I consider it a fair one.

Q. With regard to the other method of open nozzle?

A. If the nozzle was open the pressure would be greatest near the point where it was applied.

Q. If the pressure near the engine was two hundred pounds to the square inch, with an open nozzle, what would be the pressure at the end of the hose from the engine?

A. It might be considerable less, depending entirely upon the size of the nozzle.

Q. Do I understand you, as a scientific man, in your opinion, that the cap pressure described by Mr. Harris is the fairest method of testing hose?

A. I can think of no fairer.

Q. You can't think of any fairer?

A. No, sir.

Q. There has been some evidence here in regard to the size of the nozzle used; Mr. Harris used a $\frac{7}{8}$-inch nozzle; some think $1\frac{1}{8}$ or $1\frac{1}{4}$ is fairer. What is your opinion?

A. My judgment is, at the end of the pipe the larger you make the nozzle, so that if there were weak spots at the end of the hose with a large nozzle it would be less likely to burst than it would if there was a smaller nozzle.

Cross-examination by Mr. Adams:

Q. As a civil engineer you have never had anything to do with testing leather fire-hose?

186 A. Never that I can remember now.

Q. If in the application of water-power, can it be more steadily and gradually by a steam-engine than by a hand-pump?

A. Well, my observation would lead me to think it might be more generally applied by one of those hand-pumps than by the other way, because I have seen men operate them generally and they worked very much the same as Mr. Harris mentioned.

Q. In working a hand-pump could not there be jerking greater than by the application of steam-power?

A. There could not be until after the pressure gets up to 150 pounds, and along there; such pumps as I have seen it would be difficult to jerk them.

Q. The manner of testing is what you have ordinarily applied to water pipes?

A. Yes, sir; I didn't see this test; I have seen the pump because we

borrowed it for some of our own operations; that is, we borrowed some from the government and used it for our pipes.

Q. You have tested water-pipes frequently?

A. Yes, sir; we do that every year; all our water-pipes are tested laid in the city.

Q. In order to make a reliable test, is it not necessary to know that the gauge should be accurate at the time the test is made?

A. Yes, sir.

187 Q. Is not the only way that can be arrived at by inspection?

A. I don't know that an inspection of the gauge is the only way; you might compare it by other gauges; you could easily tell whether it was out of order or not by comparing it with other gauges.

Q. Do you understand steam-engines and the construction of them?

A. Well, sir, I know something about them; I am not what is called a practical steam-engineer.

Q. You know about two gauges—water-gauge and steam-gauge?

A. Yes, sir.

Q. In applying water pressure by means of a steam-engine, when the steam-gauge indicates every instant a hundred pounds pressure upon the steam-gauge, will the water-gauge or pressure be higher or lower?

A. That depends upon circumstances; you can make a pressure of fifteen pounds of steam force water into a pipe so that there will be 510 or 600 pounds pressure; it depends upon the construction of the machine.

Q. The gauge of the water pressure will be indicated?

A. The pressure on the water-pipe.

Q. That will be higher, ordinarily, than the steam-gauge?

A. I don't think there is any necessary connection between them; a very low-pressure engine can be made to raise water to a great heighth, if you have the cylinder large enough; the steam and water don't come together at all; if it did, the steam would be condensed; the steam would force the piston up and down; it depends entirely upon the size of your cylinder.

188 Q. When the water is confined, as has been stated here, by a cap on the end of the hose, would not the hose be much more likely to burst upon a sudden application of power with the cap on the end than if there were no cap there?

A. No, sir; not with a water-pipe.

Q. In testing a boiler, won't a boiler stand more steam pressure than it will cold water pressure—suppose the power is applied to cold water in a boiler?

A. No, sir; if the two were a steady pressure; it is a thing I have never tried, but I should say the boiler would be more likely to stand a given pressure of cold water than of steam.

Q. Is it not a fact, in testing boilers, applying severe tests, you take cold water?

A. The reason of that is, you can depend upon a trial by water; you can measure it with certainty with the measuring rules, whereas you put on a steam test, frequently, to go through a small pipe, the boiler you have the steam in may have a certain pressure, but by the time it reaches the boiler you wish to test, it may have been cooled and less pressure.

Re-direct examination:

Q. The same principle that applies to the test of iron applies to the test of leather?

A. If you wish to know the number of pounds to the square inch.

Q. As to the strength, I mean?

189 A. Yes, sir.

Q. Would you consider the test by water pressure with a cap on as described here by Mr. Harris—would you consider such a test a fair and impartial test in testing water-pipes?

A. Yes, sir; if there is no particular specifications in the contract as to how it should be tested, I consider that a proper test.

Q. Would it be proper to get up a pressure of two hundred pounds?

A. That would depend upon the length of the hose; if you make the hose sufficiently long, you might get up a pressure at one end.

Q. Could you in testing hose fifty feet long?

A. No, sir; you could not get up that pressure with any hand-pump or steam-engine in this city.

Q. Which would be most in favor of the hose, the application by hand with this hand-pump or the application by steam?

A. I think if it were done fairly it would amount to the same thing; if you could make a pressure exactly two hundred pounds upon the hose, I really am unable to see how it would be different.

Q. There has been some testimony introduced that the cap pressure produces a sudden motion; the question is how the application of force by a steam-engine compares with the application of the same force by hand—which can be applied the most generally?

190 A. If the steam-engine has a good size air-pump, there could not be much pulsation.

Q. There could not be much pulsation on either?

A. No, sir; if the engine has a large air-damper—I believe I used the word air-pump, I mean air-damper—there could not be much of any pulsation.

By Mr. DAVIS. Mr. Harris desires to correct a statement made by him yesterday.

By Mr. HARRIS. The statement I made yesterday in the trial of the Greer hose, I stated that the steam-gauge indicated 241 lbs.; I meant to say 140 lbs. of steam and 210 lbs. on the hose; in speaking of them in connection with the pressure of the hose, I made the statement 240 lbs. instead of 140 lbs.; it was asked if I meant 240 and I said no; I meant 140 lbs. of steam and 210 lbs of pressure on the hose.

Thomas B. Brown, a witness called on behalf of the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. You are one of the police commissioners?

A. Yes, sir.

Q. Who composed the board of police & fire commissioners?

A. The board is technically the board of police, for the board of police has the control of both police department and the city fire department; the board of police properly, and not attending to police duties; they have only three commissioners, myself, A. D. Titsworth, and

191 Frank Gunn; we are the police commissioners for police purposes.

For police commissioners doing the fire department business, by the last amendment to the city charter at the last session of the legislature one commissioner was added for fire department purposes; for commissioner since last April, I think, the additional commissioner has been William James.

Who is now?

Q. The board in the summer of 1867 consisted of myself, Gund, Titsworth, and the underwriter's commissioner, James.

A. Yes, sir.

Q. Did the board cause the advertisement for hose to be published in the year 1867? And if so, state what it was.

A. Yes, sir; I don't recollect the precise time; but the court has it here with the records, where the board of police—it was soon after the annual appropriation was made by the common council, the board of police commissioners.

Q. Have you ever seen that paper before?

A. Yes, sir; I recognize the paper.

Q. Perhaps you can fix the date now?

A. It was sometime in the fore part of July, between the 3d and the 15th, I judge by the date of the advertisement. The board of police for fire department business ordered the fire marshal to draw up a notice similar to this and cause its insertion in the corporation newspapers.

Q. State the substance.

192 A. As to the dates, I may be wrong; I think it was on the 25th of July when Raster came in and brought this letter, and it was brought before our board; Mr. Raster was there, but I don't know he gave it to us personally; I rather think not; I think the fire marshal brought this in an envelope along with several other proposals for furnishing the city with hose for fire purposes; I believe that was the day of our regular meeting; it was at a regular meeting at any rate when these proposals were opened, and I think it was very late when the board got through considering these proposals, after opening them and taking the amount of the various bids and the character of them, we then adjourned over until the following day for further consideration of this question for awarding the hose; the following day in the forenoon, the hour I do not precisely remember, we met, and these parties, there was some four or five in all, the bidders for the contract, appeared before us; Mr. Greer's bid was very much lower than any of the other parties, and the next lowest bid to his was one by this Gates & Sons, at $1 85 per foot; and I will say of Gates & Sons, I think their bid was for three different prices, depending upon the quality of the hose; I think they run up of their best hose nearly two dollars.

Q. (By Mr. Adams.) You need not say anything about Gates' bid.

A. Mr. Greer was the least bidder.

Q. (By Mr. Davis.) It was brought out in the examination of Raster that the bid was $1 85.

193 A. Then Mr. Greer's bid being so much lower than any of the others; he was a stranger to us; he come here from Philadelphia, a long distance, and we made what few inquiries we were able to that morning, in regard to this manufactury, and we ascertained it was a house that had existed a long time, and very old firms, and that Mr. Greer was a son, I think, of the former proprietor of the business. We were in want of first quality hose; we had had bad enough previously, and we wanted to be sure that we were getting good first quality hose when it come here, because it would take some little time to get it made, and we wanted it the first moment we could get it, and the kind of hose that would last us the year through. With a view of ascertaining what the power of different parties as to furnishing it quickly and furnishing good quality was, we called them separately, the bidders, before us, and asked them about their facilities for manufacturing, the number of hands they employed, and their facilities for doing it, and also the times, of course, for this hose, particularly of Mr. Greer, because he was so much lower than the others. All the others assured us they were putting it down to the lowest possible price, for the purpose of getting the Chicago custom. Well, Mr. Greer gave us the items of cost of leather per

pound, of the number of pounds in the side, and number of strips he would get out of a side of that size, and the number of pieces.

Q. Who were you conversing with at that time?

A. Mr. Greer.

Q. Mr. Greer himself?

194 A. Mr. Raster. It wasn't Mr. Greer, but his agent, acting for him. He gave us a statement, and we figured it up, the cost of the various items, and we told him it amounted to very near $1 69 or $1 70. We asked him if he didn't expect to make some profit. Said he, We don't care anything about the profit on this lot of hose; we want to introduce our hose into Chicago. The name of the house is new in the country, and we want it as an advertising card; and we are satisfied if Chicago purchases our hose, and is satisfied with it. It will make us great sales in the West, and you see our motive, therefore, for bidding so low. We know that is lower than can be afforded and make any profit. That's about the substance of his statement; I give it as near as I can, and I may have borrowed a word or two, but not anything material, as near as I can say. We asked him if he could be sure to get the hose completed by the first of September; we told him it was an important matter with us then; that we were almost destitute of reliable hose for a great fire, where more than an ordinary amount of pressure was required upon the hose. We had been using canvass hose, which had failed us, and we wanted to get it all by the first of September; that was the latest time which we thought we must have it; and in addition to that, as we were so short then, and fires were more numerous at that time, we wanted to know how fast he could make it; how soon he could give us some hose. He stated to us he could make two thousand feet a

195 week, and send it—have it on the road—that that week was pretty well advanced, and we would have to throw that out, but the next week he would make two thousand feet, and ship it to us; and the next week, two thousand feet, and ship it to us; and that he would have more men in his shop to make up an extra quantity, and he had no doubt of his being able to furnish the whole by the first of September.

Q. You gave him the contract then?

A. We gave him the contract. The contract was about the same kind, made about the same way we have ordinarily made contracts. Here are our proposals which we wanted executed, but we wanted the hose to conform to the proposal. Mr. Greer's proposal with reference to our advertisement, attached to the paper, that he was willing to take the contract upon our conditions, by a vote of the four, we awarded it to him, and the secretary gave him a certificate to carry back to his principal that he had obtained the contract. We never had any trouble with any contracts. We made similar contracts for the fire-engine last night, receiving a proposal, which we expected to take a duplicate.

Q. How long have you been in office?

A. I was elected police commissioner three years ago last spring. We then had not charge of the fire department. The fire department, by act of the legislature, was put under the control of the board of police two years ago, three years ago last winter, I think; the session of 1864–5.

Q. Were you re-elected?

196 A. Yes, sir; last fall.

Q. For what term?

A. Six years.

Q. When that hose came on, what kind of hose did it turn out to be?

By Mr. . I think that question is objectionable until he shows he is a judge of hose.

Q. Are you a judge of hose?

A. I would not wish to put myself up as an expert in hose. I never learned any mechanical trade, although I wrought at it some years ago.

Q. Did you take any steps to ascertain what the quality of the hose was?

A. We did.

Q. Did it perform satisfactorily?

A. It did not.

(Objected to.)

Q. State what steps you took when the hose arrived here to ascertain its quality.

A. The fire marshal—these dates I could not recollect precisely—the other witnesses, but our records will show as to these matters—I could refresh my memory by them, only it was in the latter part of Aug. The fire marshal notified us that a small installment of the Philadelphia hose had come. He had at any rate rec'd notice of its being on the way. I don't know that he notified us precisely when it arrived at the depot, or when he took it from there. Then I remarked to him, I think
197 it was the board of police; at any rate, there was several of the commissioners there—that they must be tested. It was getting near the 1st of Sept., which time we understood by our contract we were to test the whole of it. It must be tested before used, and I wished that he would see that it had a fair test, and arranged that, as he was an experienced fireman, and we didn't pride ourselves on a knowledge of the machine, for doing these things. And I said to him, that it appeared to me there was but three ways of testing the hose, getting a pressure of two hundred pounds.

By Mr. ADAMS. I wish you would confine yourself to answering the question what was done. I don't think the opinion of the witnesses as to the manner of testing the hose is competant.

A. The fire marshal procured a hand-pump from Mr. Guthrie, U. S. inspector of boilers at this board, and we proceeded. He notified us he was ready on the 29th of Aug., and we proceeded to Long John engine-house to test by that pump; I went there and saw the test; Commissioner James was there and Commissioner Gund; I believe, Commissioner Tatsworth was not in town at the time; the process of testing it, as I recollect, by the hand-pump, was this in substance; a length of Greer's hose was put on the hand-pump with what I believed to be a cap of the pressure in it, whether there was a small nozzle or not I don't remember; it was a pressure from which the water on her would
198 escape at the other end and the brakes were sleightly worked; the water run through this length of hose and escaped at the other end for some little time, and then when the water appeared to have been exhausted, as the commissioner thought, and when the cap was put on and then the pump worked; it was a pretty hard pump to work and required a good many men, about as many men as could get on the brakes conveniently to work it at all, especially after there came to be any pressure of any amount; they gradually worked it up towards two hundred pounds pressure, but none of the hose stood anything like that amount of pressure with the hand-pump.

Q. State distinctly after the brakes were worked up so as to ascertain the pressure, whether sharp and short blows were given so as to produce any concussion in the water in the hose?

A. I saw nothing of that kind. I was looking at it very carefully.

Q. What pressure did you reach before that bursted?

A. There was three lengths on the hand-pump.

Q. One length at a time?

A. One length at a time, in the manner I have described. The first length burst at a pressure of (180) pounds, as indicated on the gauge of the U. S. inspector. The second length burst at a pressure of (155) pounds. The third length burst at a pressure of (140) pounds.

Q. What would be the average of this?

A. The average, if I am correct, is (158⅔) pounds.

Q. Did you consider that a fair test.

199 A. I did.

Q. Did you make any other test?

A. We found it was bursting; I think that is the first test I had ever witnessed with regard to purchasing hose to stand a required pressure, and I felt afraid we had made some mistake. The marshal had given it a harder test. The proposals didn't state any particular machine or kind of machine that he had decided upon, and I felt afraid they had made some mistake, and I didn't want to injure the man's hose, for we wanted it. I said to Mr. Harris that we had purchased these hose to use in the fire department to put out fires with, and that we tried on some steam fire-engine. Now you get a good fire-working steam fire-engine, introduce it, and see if that won't be easier upon it. Mr. Harris says, I will do it. Says I, You mention the engine and send for it as soon as you can. Says he, I will send for a J. B. Rice engine; it is recognized as one of the best engines. He sent a note, and got it there on the ground as soon as he could. Then they put on the steam, gradually worked it up, and the hose was tried, I believe, on the Rice. It was tried in the first place a single length at a time, though I am not positive.

Q. Only state what you saw.

A. I witnessed that, though I didn't suppose we should have any lawsuit about it at that time. My recollection is that it was a single length at a time, for the first three length, that we tried on the steamer

200 J. B. Rice. Mr. Harris cautioned the engineer to run it up gradually, and let the water run through the hose, and wet it two or three times; all of them bursted at a pressure of less than two hundred pounds.

Q. Do you recollect the amount?

A. The first length bursted at a water pressure of one hundred pounds; the second bursted at a water pressure of (140) pounds; the third bursted at a water pressure (160) pounds.

Q. What was the average of the fire-engine experiment?

A. The average of the first three lengths, as I made it, was about (33⅓) pounds.

Q. That is a less average than by the other test?

A. Yes, sir; something like over twenty pounds.

Q. What is the exact difference in the average?

A. Twenty-five pounds.

Q. In favor of cap pressure?

A. Yes, sir.

Q. Did you consider that a fair test?

A. Yes, sir. There was one other length which was tested a little; tested by that engine which I have mentioned.

Q. Tell us what that was.

A. The fourth was tested by putting a length of patent combination hose, a new kind which we had got from New York City, said to be extra strong. We put a length of this patent combination hose next to the engine, and to that attached a length of Greer's hose, and went on with

a gradual pressure until it ran up to (175) pounds, as indicated by
201 the gauge and the engine. Greer's hose was the second length from the engine, and it bursted at a pressure of 175 pounds.

Q. You consider this average of (158) pounds and (133) pounds as indicating sufficient strength for the fire uses in Chicago?

A. O, no, sir; a low building where there is plenty of water near by, so that long lead of hose would not have to be used, perhaps hose at that pressure might stand; but that it might be used in the department in times of great fires, when the engines have to get water a thousand or fourteen hundred feet away, and have to join hose together and throw water that distance up to the top of a high building, we can't get along with that pressure, we must have a better one.

Q. Was that whole contract made with a view of that?

A. Our contract was made with a view of that exegency; we explained to Mr. Raster our interest in having stronger hose than almost any other city, at the time he was before our board.

Q. Did you show Mr. Raster any hose in use?

A. I didn't personally; whether he was shown any or not I don't know.

Q. A telegram has been introduced here that was sent to Mr. Greer; was there any other communication with him at the time?

A. The secretary of the board notified Mr. Greer by a telegram, with a view of preventing his making any more expense than he was
202 obliged to, that the hose was not satisfactory; and also wrote him a letter announcing we had tested the hose; that it didn't stand the test, and we could not accept it; to send no more.

Q. Have you a copy of the letter with you?

A. I have not myself.

Q. Would you know it if you saw it?

A. The secretary would probably identify it better. I believe it was read to us before sending.

Q. Did you see Mr. Greer when he came on?

A. I did.

Q. State what took place.

A. I believe Mr. Greer is correct in his testimony in stating I met him first on Monday; in the course of the week, I think, I was going to our police headquarters, and I think we went back. I made a remark, something in substance as what he stated, that I was sorry these hose didn't stand the test. It was bad business for us, and probably bad for him, and I was very sorry; we wanted the hose, and we had made a new contract with another man; that it would take time to get them, and that we were in a very bad condition, and I was very sorry that the hose didn't stand the test; we went up, I believe, to the police headquarters, where Commissioner James was, and there talked over the matter considerable. I don't recollect all the conversation; there was considerable at the time.

Q. State anything that bears on this case. You heard Mr.
203 Greer's testimony, did you?

A. Yes, sir; I recollect he said—I don't know whether he said on that day or not—that he asked us to test the hose again. I know we refused to do it. It was then after the first of Sept., and we were bound to make our test before the first of Sept., or by the first of Sept., and we had made that as an official test, and considered the contract forfeited by that; and we had made another contract, and we were obliged not to lose it because of this great want of hose, and we would stand or fall by that. If we were right in the matter it could not be made any better; at any rate, we had done what we had done with the best intentions, feeling our responsibility.

Q. You would stand or fall by it?

A. Yes, sir.

Q. You thought you had made test enough?

A. We thought we had made test enough; I found fault with the cap pressure.

Q. Didn't you afterwards tender to Mr. Brown one of the engines to make such a test as he wished to?

A. The paper that was introduced, included here, yesterday, is in my handwriting, except the signature of Mr. James. Mr. Greer came and wanted to have us test that again, and I told him that we had made all the test we could; we had tried it, and found it entirely unsatisfactory, and not up to the contract, and it would not answer our purpose; and that we had rejected it, after trying it faithfully, as we believed,
204 and that we had made a new contract with another party, and that we had only one appropriation in the year for hose, and we could not enter into another contract; and we would not prejudice what we had done in the matter by making any further official test; that he might try the hose if he wished to; that he might have any engine in the department, taking Chief Engineer Stoper, and make any test he saw fit; but we would not be bound by any such test, and prejudice this forfeiture of the contract which we claimed to have made.

Q. Didn't ask him about the tender?

A. Not at all.

Q. Did you ask to sign that?

A. No, sir; the paper is an order on our fire marshal, put at his disposal any engine he saw fit.

Q. You handed him that paper?

A. I handed him that paper.

Q. You heard Mr. Greer tell you of that matter yesterday?

A. Yes, sir.

Q. Is his recollection correct?

A. I think he is mistaken in regard to my asking him to sign it. It would not have been proper to ask him to sign a paper of that kind; I hadn't any such feeling. It was an order on the fire marshal. My idea in giving it to him was, if he rec'd an order he might go and give it to the marshal, and he would put an engine out at his disposal, if he wanted it, but he might hold it until he had.

205 Q. Do you know whether he availed himself of it?

A. I have never known of his availing himself of it.

Q. Have you ever applied this test that you have described, or either of them, to any other hose?

A. Yes, sir; precisely the same.

Q. Will you state what hose it was, and when and where it took place, and how it resulted?

A. It was our hose that we subsequently contracted for with Gates and Sons, Lowell, from their agent, Mr. Graves.

Q. Detail that test.

A. We tested the first thousand feet.

Q. Give the date.

A. I cannot remember without the record.

(Objected to.)

Q. It was the hose furnished subsequent to this trial?

A. Yes, sir; by Gates & Sons; the first thousand feet that arrived we tested by the hand-pump, by the steam hand-pump and by the same steam fire-engine.

Q. In the same way?

A. In the same way. The precise figures of that test I originally took on the back of envelopes which I had in my pocket at the time, and I gave them to the secretary. I first reported to the board, giving the result of those tests. I think I reported one or both, probably myself and Mr. James. Mr. James made one report, perhaps by one month's testing, and I all the other, and the report I made to the board, the
206 secretary took down, and I compared, for he had written up his records. I compared the figures on my paper with that and gave the envelopes to him to keep, and the envelopes have since been lost.

Q. Do you recollect the numbers?

A. My recollection, aside from the memorandum I made at the time, is, that we tried four lengths of Gates & Sons' hose upon the hand-pump in the same manner that we tried Mr. Greer's, and that three lengths stood a pressure of two hundred pounds at the square inch, and that the fourth burst at (195) pounds; I won't say it is the fourth in order, but one of the four burst at 195 pounds.

Q. Was that hose contracted to stand two hundred pounds?

A. Yes, sir; nothing else ever contracted for.

Q. Go on with your statement.

A. Upon the steamer J. B. Rice, the same steamer which we tested Mr. Greer's hose, and we used the same nozzle used in the other test, $\frac{7}{8}$ of an inch, and three of the lengths burst at a pressure of less than two hundred pounds, at a much higher pressure than Mr. Greer's. If I had the book I could tell.

Q. Do you recollect how they stood the test, any of them?

A. They burst all of them, but at a very much higher pressure than those of Mr. Greer's upon the engine. The precise pressure I cannot give without looking at the book.

Q. Which do you consider the most favorable to the hose of those two kinds of tests.

207 A. The hand-pump most decidedly; we have since tested after that thousand feet of Gates, nine thousand feet more as they came in in the same way; almost every piece we tried, some two or three sections in a thousand feet indiscriminately, have almost invariably stood [stood] a pressure of two hundred pounds; perhaps four or five lengths at a thousand may have bursted.

Q. On that kind of pump?

A. On that hand-pump.

Q. With a cap nozzle?

A. Yes, sir.

Q. Mr. Greer said something about repairing hose and putting it in order again; do you recollect anything about it?

A. Mr. Greer said that he ought to be allowed to repair his hose, make them good. We told him we understood it was to be made and sent to us; eight hundred or a thousand miles distant, was a good way to send hose to a fire shop, and we wanted it for immediate use. I asked him if he tested the hose before he sent it; he said he didn't, and we told him of our condition; of course, we must test it before the first of Sept., and pass upon it, and every time we bursted a piece of hose we could not send it to Philadelphia to have it repaired.

Q. Did any one single length of his hose stand a pressure of two hundred pounds?

A. No, sir; not one.

Q. That you tried?

208 A. Not one that we tried.

Q. How much hose did you actually receive from him here?

A. I give that only from the report of the fire commissioner; about (1,650) feet of hose must be at the depot.

Q. You didn't receive that?

A. We have only had in our possession (1,650) feet, as I understand; with respect to that using that hose, we never knew of its being used until after it had been used by the fire commissioner. It was contrary to our orders. It was a violation of our orders in using it; sometimes firemen don't know much law; whenever there is a great fire, they will lay hold of anything they can get to help put it out.

Q. Do you know how much that was used?

A. I should judge—I don't know personally about it, you can prove better by the firemen.

Q. Will you explain to the jury about the riveting of these hose, what you considered manufactured as far as regards riveting.

By Mr. ADAMS. He has said he is not an expert as to the manufacture of hose or how it ought to be done.

By the COURT. He can state how it was riveted.

A. I am not an expert in this matter, but, of course, I looked at the hose with considerable attention. It appears to me in comparing it with other leather hose that we have since received, and some old we had in the department which had been standing for years, that the heads
209 of the rivets of Greer's hose, the heads in the two rows are very much nearer together than those which we have found to be good and strong in ordinary use. That is my judgment on inspection.

Q. How did that riveting stand the test?

A. The hose pressed near the rivets, all that I noticed, right by the side of the rivets, tearing it out.

Q. When you made your contract with Gates, how was the market as regards this sort of contract? How were the offers made to you compared with this when Greer took the contract?

A. Well, my impression of it is, it didn't vary.

(Objected to.)

Q. At what rate did you contract with Gates, in order to supply this deficiency?

(To this question the counsel for the plaintiff objected, which objection was sustained by the court; to which ruling of the court the counsel for the defendant then and there excepted.)

By Mr. DAVIS. We offer the rate at which we actually contracted with Gates on failure of Greer to carry out his contract, and also the bids that were made at that time.

(Which was objected to and sustained by the court; to which ruling of the court the counsel for the defendant then and there excepted.)

Cross-examination by Mr. Buell:

210 Q. Do you recollect what day Mr. Greer arrived in Chicago?

A. Well, I don't know when he arrived, but I think it was the Monday following the first day of September. I think Sunday was the first and Monday was the second.

Q. He arrived on Monday?

A. I saw him on Monday. I don't know when he arrived.

Q. Do you recollect what was the date of the telegraph to him?

A. The 30th of August, I think.

Q. Do you swear that he desired to test that hose? Was that on the first day that he arrived?

A. I am not sure whether it was the first or second, but I would rather think it was on the first; on Monday.

Q. On the day that he arrived here?
A. Yes, sir.
Q. Did you refuse him that day?
A. We refused to him any further official test.
Q. What were your reasons for doing that?
A. Because we had tested it until we were perfectly disgusted with the pressure it burst at.
Q. Did Greer offer to stand by any test that should be made in his presence; if the hose didn't stand the test he would abide by it?
A. I don't remember about that; he was a little excited, and naturally would talk pretty fast.
211 Q. Do you recollect how many times he saw you before I came to see you along with him?
A. Well, I don't know; I think it was probably as much as twice, and might have been more.
Q. Do you recollect how many times I came with him to see you?
A. Once or twice to try to get the order amended, I know.
Q. I wanted to have the order amended?
A. Yes, sir.
Q. In what particular did I want to have the order amended?
A. I can't tell precisely, but my impression was—my recollection from my conversation with you was, that you wanted to throw aside our official test which we had made and acted upon, and I didn't want to do it.
Q. Was it not in your office, the last interval I had with you?
A. It might have been; I recollect of your being there.
Q. Didn't I ask you to strike out the latter part of it, where it said, this test should not be official, and neither party should be prejudiced by it; I merely wanted to have struck out the clause of the order to test the hose, independent of any restrictions. You recollect that?
A. I recollect you wished to strike out those clauses. I think you said, "If it ain't going to bind anybody, what is the use of our testing it."
Q. Was it not because you would not strike out the latter clause? Don't you recollect of my asking you to strike out from the word,
212 "and," "it is understood by Greer and the police commissioners, that any tests made by him shall not be official tests, and shall not bind or prejudice the rights of the city of Chicago, or the said Greer in the matter." It is simply asking you to give us an order for the engine.
A. I think that was so; that is my impression.
Q. Was it not because you would not strike that out I would not use this order?
A. I don't know why you didn't use it.
Q. Didn't I so state to you?
A. You took the order away; I supposed it was to go to the fire marshal.
Q. Didn't I tell you I wouldn't take this order and test it, unless you struck out that clause?
A. My recollection is that you said you would think of it; didn't know whether you would do it or not. I think it was not as positive as that.
Q. I ask you whether Mr. Greer didn't call on you each day from the time he arrived up to the time this order was signed?
A. He might have done it; I don't remember.
Q. Isn't it your best recollection he did?
A. I don't recollect; he may have done it.
Q. Before giving this order, didn't you agree you would test; didn't

you assent to testing the fire-engine and say you would give him an engine independent of any restrictions or stipulations?

A. I don't think we made any particular agreement about it?

213 Q. On what day did you remit the contract to Gates?

A. Sunday was the first of September; either Friday or Saturday.

Q. Then it was either the 30th or 31st you made the contract with Gates?

A. It must have been, I think.

Q. That was before the arrival of Greer in Chicago?

A. That was before I saw him.

Q. Did you not state as one reason why you would not submit to any other test of this was, you had contracted for the hose, and even if this should stand the test, you had no power to receive it?

A. I might have said that.

Q. You had no appropriation to cover more than you had already contracted for with Gates?

A. I think I did state that—had no further appropriations anyway; but that was not the principal reason.

Q. I understand you to state this test with the pump was the first test you ever saw?

A. Where fire leather hose was being purchased.

Q. How many men were on the brakes?

A. About as many as could conveniently take hold and work. It was a heavy machine.

Q. How many was there?

A. I didn't count them.

Q. Can you state about how many there were?

A. Three or four on each side, at least; perhaps more on each brake.

Q. How many brakes?

214 A. Two handles, one on each side, like an old-fashioned engine.

Q. Your idea is there were about six men?

A. On both sides, perhaps more.

Q. You said it was difficult for them to get up such a high pressure?

A. It worked hard, the pump did, from the beginning; of course, as the pressure came up to 40, 50, or 60 pounds it was hard work; had to work slow.

Q. Then I understand you to say it was at the extreme exertion of these men you got it up so high?

A. It was hard work. I don't know that they got it up to two hundred pounds, but once or twice they were running it at 150.

Q. Did they work fast until they got to 150?

A. No, sir; they couldn't work fast; my recollection is, not 70 or 80.

Q. Were all the men put on the brakes that could get hold?

A. I don't know about that; there was not room for a great many more to work advantigeously.

Q. Didn't they work pretty fast to 70 or 80?

A. I think they were pretty lazy myself, and told them so.

Q. Did you ever see the pump work that way before?

A. Not in testing hose; but I have seen that same kind of pump work.

Q. Ever used $\frac{7}{8}$-of-an-inch nozzle on that engine at a fire—the J. B. Rice?

A. I think not.

Q. You know nothing whether gauges were tested to this engine or pump?

215 A. We took the pump first.

Q. Answer the question; do you know whether they had been tested or not?

A. I don't directly; only inferentially.

Q. Then I don't want to know, if you don't know it. Then I understand you don't know?

A. No, sir; I don't of my own knowledge,

Q. At the time you awarded this contract, you say you called the agents in to make a statement how they could furnish this hose at that price?

A. Yes, sir.

Q. How many were there?

A. I think there were four or five; four certainly.

Q. Didn't you take down any memorandum of what they said?

A. Yes, sir, temporarily; had a slip before us.

Q. Did you preserve it?

A. No, sir; rarely ever preserve any such minutes I make.

Q. I ask you if you preserved that?

A. I didn't at that time.

Q. You didn't reserve any memorandum of what Raster said?

A. Nothing after the close of the board.

Q. Can you recollect whether he said anything to you about their making use of the waste leather; that that was cut off was of service to them, and they could use that as a matter of profit?

A. I think I did.

216 Q. You think he did mention that? Can you tell how much he said that amounted to?

A. I can't tell a single figure now of the cost of any of those parts that were to make up the whole hose.

Q. Did he give you items and then you make the calculation yourself of how much the hose was going to be?

A. Yes, sir; we took the items and figured them up.

Q. But you can't recollect the items now you put in?

A. We put in all he gave; the other men said, "Greer can't make that hose for the price," and tried to scare us from taking his contract. We satisfied ourselves we could.

Q. Did M. Raster give you the price per foot, or the items in gross; or was it your calculation?

A. He gave us the items, and we figured the cost of the items it would cost per foot. The riveting would cost so much a foot; so many, so much, and leather so much per foot, etc.

Q. Did you make any estimate of the profit that Greer would make on the offal of the hide?

A. We took all into account at that time, I believe.

Q. Do you know that?

A. I feel very sure of it.

Q. Was the price stated what the offal was worth at that time; are you positive?

A. It is so long ago, it is difficult for me to remember the precise words. I didn't pay so much attention as to what the leather would cost directly, but that is my impression; it was stated he got so much a pound for it, or something of that kind.

Q. Something of that kind?

217 A. Yes, sir.

Q. Had you ever had any experience to qualify you to judge of

the quality of the leather or workmanship which ought to be put upon the hose?

A. All the experience that I have had is that of police commissioner; rather supervising, not managing the fire department as an executive officer. I have not been a practical currier and have not been a mechanic.

Q. No judge of leather?

A. No, sir; I wouldn't consider myself a good judge of leather.

Lemuel Richards, a witness called on behalf of the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. What is your business?

A. Tanner and currier.

Q. How long have you been in that business?

A. Twenty years.

Q. Where is your place of business?

A. Wells street, between Taylor and Polk.

Q. In connection with what establishment?

A. The Chicago Hide and Leather Company.

Q. Have you ever had any experience in testing leather hose?

A. I have.

Q. What hose have you tested and where?

A. I have been present and witnessed the testing of hose; I have been present here in Chicago, at the invitation of Mr. Brown and Mr. Harris, at several different times.

218 Q. What hose was that that you tested?

A. The hose that I was present at, I think they said was from Lowell, Mass.

Q. How long ago was that?

A. It was in September or October, I think.

Q. Of what year?

A. Of last year.

Q. By what process was that hose tested?

A. They first put on a cap with a hole in it, and after the hose became saturated with water a reasonable time, they put on a close cap and then applied the hand-pump pressure.

Q. What pressure did that work it up to?

A. About 200 pounds; I wasn't present to notice the gauge.

Q. Was it or was it not the same process?

A. The gauge, at different times, it stood about 200 pounds, as near as I can judge from a little distance; I was not particular.

Q. What pressure then was that hose subjected to?

A. It was intended it should stand 200 pounds, and was reported that it did. Those that witnessed the gauge.

Q. You heard the account given of the process by Commissioner Brown?

A. I did.

Q. Was that the same as the one you saw?

A. Precisely.

Q. Was it the same pump?

A. I should judge so.

Q. From the description?

219 A. I should.

Q. You are a good judge of leather, I presume?

A. I have made hose leather.

Q. Do you consider that a fair test of the leather and the quality and the strength of the hose?

A. I know of no better test, no fairer test, and I considered it a fair test.

Q. State to the jury what is the object in wetting the hose in the outset.

A. When the hose is wet it expands very readily, and of course the less we do it gradually, the pressure brought upon the hose gradually, the hose will stand a greater pressure. Taking the hose dry with a high pressure it is more severe. I think the test was a very fair one. They brought up the pressure moderately; no jerks that I observed.

By a juror:

Were you present when the Greer hose was tested?

A. No, sir.

Q. Were you invited to be present?

A. I don't remember that I was.

Cross-examination by Mr. Adams:

Q. Have you ever been called upon to test hose yourself or assist in testing hose?

A. I have been called on as a witness to give my opinion in regard to the hose at different times.

Q. The question I asked you is, have you ever assisted in testing hose yourself?

220 A. Not to work the brakes; no, sir.

Q. Who was noticing the gauge on this pump at the time the hose was being tested; was it you?

A. No, sir.

Q. You say it was reported by the party who was watching the gauge; who do you mean it was reported by?

A. Those immediately in the vicinity of the gauge where they could observe it, standing along down the line, and who could observe it.

Q. How much have you ever made of leather fire-hose?

A. I have had charge of manufacturing it to some extent—to say the amount—I couldn't specify any amount.

Q. For how long a time?

A. You allude to Chicago here?

Q. No, sir, I don't; my question is general.

A. My experience in making leather has been for twenty years.

Q. Have you made leather for that purpose?

A. At different times I have.

Q. You have been engaged in the general leather business, haven't you?

A. Yes, sir.

Q. What is the best leather for making leather fire-hose?

A. Leather made from slaughtered hides.

By Mr. DAVIS. I submit that is immaterial; he was not examined in regard to it and it is immaterial. The contract calls for a specific kind of leather.

(Objection overruled by the court; to which ruling the defendant's counsel then and there excepted.)

221 Q. What kind of leather was the hose you saw tested?

A. It was a superior grade of leather; I call it the "Union tanned."

Q. I want to know if that is as good as oak-tanned leather, Philadelphia made?

A. I consider it so; there is a difference of opinion, of course.

Q. Is it generally considered so among the trade?

A. A portion of the trade consider it superior.

Q. And the other portion consider the other superior, I suppose?

A. Yes, sir.

Q. How many tests of hose were you present at prior to this test you speak of at the pump?

A. My memory don't serve me in regard to the exact number; two or three different times here in the city, at the request of the officers of the department.

Q. How many times do you think?

A. Well, two or three times.

Q. That was all?

A. That was all.

Q. Do you know how large a valve this pump had that was used?

A. I don't; didn't examine the valve.

Q. Do you know, of your own knowledge, how much pressure per square inch there was on the hose?

A. I noticed the gauge on one trial, &, as near as I could judge, it stood 200 pounds when they stopped.

Q. Does the gauge indicate the pressure upon the square inch?

A. That was the intention of the gauge.

Q. Do you know whether it does it?

222 A. It is so considered, I believe.

Q. Suppose you would apply the same force to ten or fifty feet of hose, will the pressure be the same in each case?

A. I am not an expert in that direction; it is not my business, and I could not answer, perhaps, with certainty.

Q. You don't know then what conditions must exist in order that the gauge shall show the pressure upon a square inch of hose?

A. Not fully, perhaps.

Q. Would it vary any with the length of the hose?

A. It might and it might not.

Q. What is your opinion?

A. It is a matter I have not had occasion to become much acquainted with; I couldn't give any general opinion, perhaps.

Q. How many men were upon the brakes at the time you saw the pumps work?

A. I should judge about ten or twelve.

Q. How did the men work up to a power of fifty or seventy-five pounds, slowly or fast?

A. They worked moderately on the commencement, and, of course, they increased their speed to the utmost of their strength.

Q. Up to 50 or 75; that was after the hose was charged and the cap on?

A. After the hose was in a proper condition to put a severe test on.

Q. After it was filled with water and the cap off?

A. Yes, sir; after it had the necessary time, I thought.

223 Q. The hose was perfectly filled with water before they got the forty pounds, was it not?

A. No, sir.

Q. How high did they ever go with the pump before they filled the hose with water entirely?

A. It might vary somewhat; a portion of the hose would absorb water more rapidly than other portions; some part is more solid than others—different parts of the hide.

Q. Was not the portion of the water absorbed by the hose rather pressed into it by the pump?

A. Certainly, it was.

Q. How much power would have to be applied before the hose was full; it was not full before they got forty pounds?

A. I didn't stand by the gauge; yes, sir; probably it was full, but not the amount of steam unnecessary.

Q. How high did they go before they put the close cap on without the aperture?

A. I couldn't say; didn't examine the gauge.

Q. Didn't they put the close cap on before they commenced working?

A. I think not.

Q. Will you swear they did not?

A. I can swear there was an aperture in the first cap on it.

Q. At what stage of the proceedings was that put on—the close cap?

A. After the hose was sufficiently saturated with water to bear a severe test.

224 Q. After they had worked the engine, and after absorbing the water, they put on the close cap?

A. Yes, sir.

Q. After that they commenced to run up to this extreme pressure of 200 pounds; did they keep on steadily without stopping or stop until they got 200 pounds?

A. They did, so far as they could.

Q. So far as they could?

A. Yes, sir.

Q. I don't know what that means; do you mean to say they stopped or not?

A. One man dropped off and another man went in, and there might have been a sleight falling off of power; the same as in a hand fire-engine, the same process.

Q. Are you acquainted with the action of a hydraulic pump, such as that was?

A. Somewhat.

Q. Don't you know that after one stroke of the pump-handle, as it comes down & as it comes up, that the valve opens a little every time?

A. I do, a double-acting valve.

Q. And some of the water falls back every time; isn't that so?

A. Yes, sir.

Q. Are you acquainted with the action of the steam fire-engine in that regard?

A. Some.

Q. When the steam is let on, isn't there a gradual power without any stop in the steam-engine—there is no falling back of the water, is there?

225

A. Not great.

Q. Is there any?

A. I am not prepared to say.

Q. What is your opinion?

A. I couldn't give an intelligent opinion, I think, about it.

Q. You know about the pump; there is a falling back in the double-valve pump?

A. Very slight; not so as to change the result.

Q. There is some, isn't there?

A. It is conceded, I believe, that there is.

Q. They look at the indicator and tell while the pressure was being worked up?

A. I examined it at one trial; noticed the indicator.

Q. While the pressure was being worked up, did the indicator come on steadily, indicating a rise in the pressure, or did it wobble?

A. Wobbling was not unusual.

Q. You understand me? Did it wobble or did it come on steadily, indicating an increase of pressure?

A. It went on what we call steady. There is a vibration often in a steam fire-engine.

Q. You don't mean to state that the indicator on this pump didn't vibrate any more than the indicator of a fire-engine, do you?

A. I didn't think it did in this instance.

Q. Didn't vibrate any more?

226 A. I think the pressure was put on steadily, in this particular trial I am speaking of; the vibration was very sleight; the indicator went up very regularly.

Q. Do you recollect any other persons who were there; citizens, not firemen?

A. I do not.

Q. This was about the last of September—it was in September or October, you think—and it was a trial of the Lowell house, you were informed?

A. Yes, sir.

Q. Was there any statement made whether that was the pump they had tried hose with before?

A. No, sir; not to my remembrance.

By Mr. Davis:

Q. Who notified you to be present at that time?

A. Mr. Brown and Mr. Schenck and the fire marshal.

Q. Did they state any reasons why they wanted you there?

A. I understood to give my opinion in regard to the quality of the leather.

Q. Assist them in ascertaining the quality of the leather?

A. The quality of the leather was the object of their inviting me, as I understood it.

Q. You consider that test, as a judge of leather, fairly made?

By Mr. Adams:

Do you know whether the maker of the hose, or any agent of his was there?

A. I am not acquainted with the manufacturer of the hose. I understood an agent was there.

Q. The agent of the manufacturer was there?

A. I understood so.

Q. Which bears the highest price in the market, tanned leather,

227 Philadelphia hides, slaughtered hides, or Union-tanned hides?

A. Oak-tanned leather is the highest priced leather; it is considered so in the market.

By Mr. Davis:

Did you state what quality you thought it was?

A. I stated it to be an article that would sell in the market for oak-tanned leather, and I still think it would; thought it to be a very superior grade of leather. I gave the commissioner a certificate to that effect from the Chicago Hide and Leather Company.

Wardell Guthrie, a witness called on behalf of the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. What is your business?

A. United States steamboat inspector for this city.

Q. You have heard this pump described; do you know anything about it?

A. Yes, sir; I know the pump.

Q. Do you know whose charge it is in?

A. It is in my charge at present.

Q. Did it go out of your charge for the purpose of testing this hose?

A. Sometimes; yes, sir.

Q. When was the first time it went out?

A. I think it was along the first of August.

Q. Since then?

228 A. Well, from that to the 20th of September, probably two or three times.

Q. Describe the gauges on that pump.

A. It is what is called the Ascott gauge.

Q. Do you know when this hose, in the latter part of August the 29th, was tested, what condition the gauges on the pump were in?

A. I know the gauge had been in order all the season.

Q. What was its condition when it was returned to you?

A. Good.

Q. Would it correctly indicate the pressure—the water pressure?

A. As correctly as any guage, I think, you can find.

Q. Reliable?

A. It is what we have for testing guages given to us by the United States government.

Q. In order to induce a pressure of 200 pounds in that pump, what force is it necessary to apply to the brakes?

A. It depends upon what you are testing. If you have reference to hose, my experience was it took from eight to ten men to get up 200 pounds pressure.

Cross-examination by Mr. Adams:

Q. You said that this pump went out of your possession about the first of August?

A. Somewhere along there; I don't recollect the date.

Q. Isn't it a hydraulic pump, such as is used for testing water-pipes, boilers, etc.?

229 A. It is a different pump from almost anything that is generally used; that is, the shape of it. The action is about the same.

Q. How large a valve was there to it?

A. A three-inch valve, I think.

Q. How long did it remain out of your possession from the time you parted with it to the city from the 1st of August?

A. I don't think it was more than part of a day; sometimes we have left it at the engine-house after they had got through with it, until we had occasion to use it.

Q. When did they next get it?

A. I couldn't say exactly; they had it two or three times, I think, between the first of August and the 20th of September.

Q. How long had it been prior to the 29th of August since that guage on that pump had been tested—inspected and tested?

A. I couldn't say; we didn't keep a record when we tested it; we tested it generally three or four times a season.

Q. State to the best of your recollection how long a time it had been.
A. Might have been three months prior.
Q. Had the pump been in use in the interval?
A. Yes, sir; we used it almost every day.

Q. After the pump came back to you subsequent to the 29th of
230 August, how long was it after that time until you tested the gauge?

A. I think we tested it within a couple of weeks; we have tested it since that time, at any rate.
Q. Within a couple of weeks?
A. Within a couple of weeks of the time they had it—might have been longer.
Q. How did it appear when you then tested it?
A. As usual.
Q. Was it accurate at the time you then tested it?
A. Yes, sir.
Q. Didn't find it out of the way at all?
A. No, sir—in order—might vary a pound or so; that we don't consider anything out of the way with a guage.
Q. It had been used in the meantime?
A. Yes, sir; we used it through the summer season almost every day; sometimes two or three times a day.
Q. In using the guage that was upon the pump, won't it vary from time to time, so as sometimes to be correct, at other times to be incorrect, without any change upon actual inspection?
A. No, sir; I don't think it would.
Q. It would vary so as to be incorrect?
A. I don't think it would vary two pounds from incorrect, without some injury—some jar or something of that kind to throw it out of the way.
Q. Was this a hard pump to work?

A. It was at that time; it has got considerably out of order.

231 Q. Have you ever had any experience in testing hose yourself?

A. I have been present, I think, at five tests of city hose.
Q. In this city?
A. Yes, sir.
Q. Since that time?
A. Since that time.
Q. In whose possession was the guage and pump after the city returned it at that time?
A. In my possession.
Q. Who tested it at the time it was tested?
A. What?—the gauge?
Q. The guage.
A. I think my associate tested it once and I tested it once.
Q. You are an inspector of steamboats, you say?
A. Yes, sir.
Q. Are you a mechanic?
A. Yes, sir.
Q. Ever engaged in the manufacture of guages?
A. No, sir.
Q. Are you an inspector of guages?
A. No, sir—yes, sir, I might say I am in one sense; we have the inspecting of all guages of steamers that we inspect.
Q. How did you test it?
A. Tested it by hydraulic pressure.

Q. Describe the manner of testing a guage?

A. We take the guage that is claimed to be correct and use it
232 as a test guage, connecting our guage to the instrument by a small force-pump, that is a connection between the two guages and then pump them up. If they correspond we claim that the guage is correct. Different parties in the city that have guages in the city, that they keep for testing purposes and we try them with different ones. Hardly ever we find that a guage will compare to a pound right through from one up to two hundred.

Q. Do you know whether that guage was tested by any one else about that time except yourself?

A. I don't know of anybody without it was my associate, Mr. Holmes.

Q. Was this a mercurial guage or a spring guage?

A. A spring guage.

Direct examination resumed:

Q. You said that pump was out of order somewhat; in what way?

A. The packing was partly worn out.

Q. Would that in any way affect its efficiency as a test?

A. No, sir; not its efficiency, only make it hard work to get a test.

Q. The test would be no less accurate?

A. No, sir.

Q. I understood you to state you were present at five tests?

A. I think five.

Q. Where were they?

233 A. The Long John engine-house.

Q. When was that?

A. The 20th of September, until along, I think, the 15th of November; different times; I couldn't tell exactly what time.

Q. Were these tests made in the same way described here before by the witnesses?

A. Yes, sir, I think they were.

Q. Did you consider them a fair test of hose?

A. Yes, sir, I did.

Q. What has been your business?

A. My business is engineering; for the last two years have been inspector of steamboats.

Q. Your business is that of an engineer?

A. Yes, sir.

Q. That is, a manufacturer of steam-engines?

A. Yes, sir; and machinist.

Q. Do you recollect what test the hose stood at those times you were present?

A. Two hundred pounds.

By a juror:

Was you present when Greer's hose was tested?

A. No, sir; I was not.

By Mr. Adams:

You said this pump was somewhat out of order?

A. Yes, sir.

Q. I will ask you if, when the pump is out of order, it can be worked as gradually and as well as when in order?

234 A. It can't as gradually, of course.

By Mr. Davis:

Was there any condition of letting your pump made to the city authorities?

A. No, sir.
Q. Was there not some condition in reference to some person being there, representing you?
A. There was, after the 20th of September.
Q. Those last five tests?
A. Yes, sir.
Q. State what it was.
A. Either I or my associate should be present to see the pump was properly managed.
Q. Was you employed by the city for that purpose?
A. Yes, sir.

By Mr. Adams:

Who made that condition that you or your associate should be present; the city?
A. It was my associate, I think, that made that a condition, that when they should have the pump, one or the other of us should be present.
Q. That was by agreement with the city?
A. With the fire commissioners; yes, sir.

By Mr. Davis:

That is the reason why you were there in those five tests?
A. Yes, sir.

By Mr. Adams:

How did you come to make that condition?
235 A. The levers had become somewhat worn, and parties not used to handling it would give it a short jerk, and more likely to break the pump than if it was worked regularly.
Q. The pump, after it had been returned on the 29th of August, looked as if it had been used in that way, and you wanted to prevent it?
A. It didn't look so; but I saw the operation of the pump at the water-works, and that is what gave me that idea, and thought it was best for me to be present.
Q. On account of men being inexperienced in handling it?
A. Yes, sir.

D. C. Cregier, a witness called on behalf of the defendant, deing duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. What is your business?
A. Engineer.
Q. Where are you employed?
A. By the city of Chicago water-works.
Q. What is your duty?
A. Chief engineer.
Q. You manage the steam-engine there?
A. Yes, sir; the pump department.
Q. How long have you been doing so?
A. Fifteen years.
236 Q. Have you heard some of the testimony in regard to the pump used for the purpose of testing hose?
A. Yes, sir.
Q. Have you ever seen that pump?
A. I can't say it is the same pump—I think it is, however—that they had on one or two occasions at the water-works.
Q. Would you consider yourself a competent judge of how hose should be tested—by what sort of pressure?

A. Well, no, sir; I hardly think I am competent to judge of how hose should be tested. I can say, however, if it will be of any information, how I would test it if left to myself.

Q. Will you state what would be the effect of the application of such a pump as has been described here upon a column of water in a leather hose capped at one end?

A. That would depend upon the condition of the pump, the general mechanical appliances, and the manner in which they were operated. If the hose were filled with water, and the pump was working gradually and uniformly, it occurs to me that that would be a very fair and proper test, and it would be the proper way to deliver the water into it, so as not to create an undue strain upon the parts by either pump or hose.

Q. Would you consider that a fair test of either leather or any other material.

A. Yes, sir; I should consider that a fair test for anything.

237 Q. How would it compare with other methods of testing as to fairness and impartiality?

By Mr. ADAMS. What other methods?

Q. Could you devise any more impartial way?

A. I know of no fairer test than that.

Q. What would be the effect of using a tube with an open end—a small aperture?

A. What would be the effect?

Q. Yes, sir.

A. Well, it appears to me—it is my opinion that the effect would not be so uniform.

Q. Where would the pressure be greatest?

A. At the point of inlet, evidently.

Q. Near the engine?

A. Yes, sir.

Q. Suppose there was attached to the engine a seven-eights or one and-one-fourth-inch aperture, the hose being 2½, the pressure would be greatest near the engine?

A. I think it would.

Q. How would the force be diffused through hose fifty feet in length?

A. It would be very near the same through the same diameter; but as it approached the end, the pressure would diminish, having an outlet, and would create a greater pressure at the other end than at the outlet, since at that point the pressure was moved.

238 Q. Then you would consider that the hose would be more fairly tested by having an end cap?

A. Than open?

Q. Yes, sir.

A. Yes, sir.

Q. You spoke about the application of the pressure; which would you think would be the best method, to apply it by hand-pump or by steam?

A. By hand, decidedly.

Q. State your reasons.

A. Well, perhaps the principal reason is, if we apply it by steam-power it would be more inconvenient, not to say impossible, to carry steam at a uniform pressure, and therefore the engine would run faster and slower. It would not be perceptible in the action of a machine, but it would where water is applied as a test. It seems to me man-power would be more uniform, because you can govern it. However, evep man-power might be anplied so as to cause the very same motion, if it

were jerked upon or thrown upon. But uniform action can be governed by hand easier than by steam, in my opinion.

Q. You heard Mr. Harris' testimony, did you not?

A. Yes, sir.

Q. You heard his testimony as to how power was applied?

A. Yes, sir; I think I did.

Q. The last time?

A. Yes, sir; I recollect the time very well.

Q. Power applied as he described it, by the ordinary fire-engine, first-class, how would that compare?

239 A. That is to say they would arrive at the amount of their strength and then stop awhile, and then run it up to a certain amount, and then stop?

Q. Yes, sir.

A. I should think it would be fully as fair as to have a steam fire-engine to continue it.

Q. Wouldn't you think the application of the pressure the way described that it would be more gradual in the accumulation of power on the hose?

A. Yes, sir.

Q. Would there be more or less liability to a concussion in a column of water in the hose?

A. Yes, sir.

Q. Which?

A. Less by hand-pump than by a steam-engine.

Q. Less liable to sudden jerks in the application of the force to substance?

A. Yes, sir.

Q. I understand you to give, as your opinion as an expert, that in a column of leather fifty feet long, leather hose, the pressure could not be more uniformly or gradually applied than by the hand-pump with a cap end?

A. I don't think it could.

Cross-examination by Mr. Adams:

Q. You have said you thought that with a cap on was a fairer test?

240 A. Yes, sir.

Q. Do you mean to say that the steam-power being applied by an engine to the hose, that with a cap on it would be easier on the hose than if there was a nozzle on the other end?

A. Of course; I have to take into consideration that in the open test, as I will term it, that the pressure must be the same. That is to say, you want to get 200 pounds in either test to the square inch, you must attain that pressure with an open nozzle, or perhaps do it with a cap. I believe that is what you mean. Of course, if the hose were open irrespective of any pressure of water flowing through it, it would be easier on the hose than to be confined there.

Q. Then there would be 200 pounds to the square inch, and at the extremity where the water escaped there would be much more?

A. No, sir.

Q. There would not be?

A. No, sir.

Q. It would take more than two hundred pounds to the square inch where the hose joined to the engine to make that where the water escaped?

A. It would take simply the friction more.

Q. Nothing more than that?

A. No, sir; nothing more than that. It costs something to get water through the hose. You spoke of fifty feet?

Q. Yes, sir.

A. It would be a trifle of friction through fifty feet of hose—

241 would be a trifle.

Q. Were you not present at that test spoken of?

A. No, sir.

Q. Your opinion as to the fairness of the test is given upon the statement that you heard Mr. Harris make as to how the pump would work?

A. No, sir; it was given on the statement of the gentleman who asked me.

Q. He asked you if you heard Mr. Harris' testimony?

A. Yes, sir.

Q. And then you expressed an opinion as to the working of the pump as he described it?

A. I don't know that I gave an opinion upon the manner in which he worked the pump, but he described there were men at each end of the brakes working the pump, and when they arrived at a certain power they got tired and stopped.

Q. Don't you think that power could be applied more gradually by a steam-engine in good order if it is properly managed?

A. Not any more so than like circumstances existing in a hand-pump.

Q. You don't think it is more easily managed than a hand-pump.

A. No, sir.

Q. Suppose you put in experienced men at a hand-pump, and a man of experience manages the engine?

A. There is a line, of course, you draw there; you make one

242 machine a good machine to test, and the other a bad one; of course, I should have to answer then that the machine the best managed would probably produce the best results—the most favorable results.

E. P. Ward, a witness called on behalf of the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. You are secretary of the police commissioners, are you?

A. Secretary of the board of police.

Q. Were you acting in that capacity last year?

A. I was.

Q. Are you acquainted with Messrs. Greer and Raster?

A. Yes, sir.

Q. When did you make these gentlemen's acquaintance?

A. Sometime, I think, last August.

Q. Under what circumstances?

A. Mr. Raster appeared in answer to an advertisement for proposals to supply the city with hose. He appeared on behalf of Mr. Greer, of Philadelphia.

Q. Came before the board?

A. Yes, sir.

Q. Did Mr. Raster see, to your knowledge, any of the hose and coupling that was then in use in the city of Chicago?

A. He did.

Q. When and where?

A. At the office of the board there.

243 Q. Did he make any remarks about the coupling at that tim

A. He did make remarks, but I don't know—I can't say what they were.

Q. Did he say anything in relation to what——

(Objected to.)

Q. State what remarks he made.

A. At the time of the acceptance of the proposals by Mr. Raster, on behalf Mr. Greer took place, something was said about the peculiarity of the coupling.

Q. By whom?

A. By the board; which could not then be determined upon by the board, as they hadn't then a sample to hand to Mr. Raster, by which he was to be governed. He said that he didn't think it would make any material difference, as a sleight modification in the style of the coupling would not necessarily make any difference in the contract. That was at the time that the proposals were about being accepted, and the contract was closed with that understanding.

Q. Did you furnish him with any coupling?

A. We did; on the morning before he left town the coupling was shown to him; he looked at it and agreed to conform to that style.

Q. Did you furnish him with any coupling?

A. I don't know whether he took them to Philadelphia with him. He accepted the coupling. There might have been some verbal modifications of the coupling be which the pattern present was varied; I
244 can't say how that was. It was not a duty that fell to me particularly.

Q. Did you telegraph to Mr. Greer in relation to the hose at all?

A. After his hose was tested, under the direction of the president of the board, I telegraphed to Mr. Greer.

Q. Have you a copy of that telegram here?

A. I have the copy-book.

Q. Did you do anything besides telegraph?

A. I wrote the next day; that is also here.

(The counsel for the plaintiff objects to the copy being used, because the plaintiff has not been notified to produce the letter; which objection was sustained by the court; to which ruling of the court the counsel for the defendant then and there excepted.)

Q. Were you present at any of the tests made of this hose?

A. Of Greer's hose? I was not present at the test.

Q. You was not present?

A. No, sir.

Q. Have you been present at any tests of hose?

A. On several occasions when the hose furnished by Gates was tested.

Q. What process was made use of in testing that hose?

A. There were three processes of testing; one was with a hand-pump, the hose attached to a hand-pump; and another with the hose attached to a steam fire-engine; and on one occasion there was still another
245 method where a length of combination hose was used.

Q. How much pressure did that stand?

A. I don't remember at what point the hose burst on the several occasions, but most of that which was tested, furnished by Gates, stood 200 pounds and over; one test, I think, stood 210.

Q. Is that with a hydraulic pump?

A. That that stood 210 was with a hand-pump.

Q. How was the comparison between the results of the hand-pump and the nozzle, from your observation?

A. I should think it was in favor of the hand-pump for ease on the hose, decidedly so.

Q. It is more favorable to the hose?

A. Yes, sir; easier to the hose; the same amount of pressure seemed to be put by the hand-pump with less liability to burst the hose. I have a memorandum in the minutes of the board that gives the result accurately of the tests of the hose.

Cross-examination by Mr. Adams:

Q. You are the secretary of the board now?

A. Yes, sir.

Q. How long have you been secretary of the board?

A. A year last December.

Q. What was your business before that time?

A. I have been for quite a number of years acting as deputy clerk and assistant county treasurer.

Q. Are you a mechanic?

246 A. Not professionally.

Q. Not a practical mechanic?

A. Only what——

Q. Never had any experience in testing hose yourself?

A. No other than what I have seen here.

Q. At the time Mr. Raster, you say, saw the coupling of hose, were there any specimens of hose at the office of the board of police commissioners?

A. At what time?

Q. At the time that he saw about the contract; you say he saw about the coupling and hose?

A. No; I said when he received it.

Q. The coupling that you gave him was after the contract was entered into, when he was starting away?

A. It was.

Q. Do you know whether the coupling was such coupling as were made to go ouside of the hose or inside, when it was put on?

A. The coupling was made in two parts, one part goes inside, and the other part outside, in such a manner as to clamp the leather.

Q. The ring goes on the outside?

A. Yes, sir.

Q. Were those couplings you gave Raster, just before he left, the only couplings that he saw?

A. I don't know what he might have seen.

Q. What do you mean when you say he saw coupling; was this the coupling you speak of his seeing?

247 A. Those are the couplings which I saw and inspected.

Q. That was the day the contract was entered into, and the morning which he left?

A. I think it was the day after, or the morning which he left?

Q. You know Gates & Sons got the contract afterwards?

A. Yes, sir.

Q. Had you any conversation with Raster before he left there, at the board, in which you stated to him some of the board were trying to keep him from getting the contract? Do you recollect of stating that to him?

A. No, sir.

Q. Never said that to Raster?

A. No, sir; never said it to anybody.

Q. Do you remember of Mr. Greer offering, on that Monday when he

came, to repair any hose that was not fully up to the contract guarantee, 200 pounds to the square inch?

A. I rem'ber of such a proffer being made by Greer, I think.

Q. That was declined by the board?

A. I don't know as I could state it in such direct terms as that; he offered to do the thing and they declined.

Q. He did offer to do it?

A. The position they took was this, that they didn't consider that by any manner of means a fulfillment of the contract, and that was
248 the way in which he performed it.

Q. And isn't it a fact that Gates & Sons, to whom the contract was let, that they have had the privilege of repairing the hose that was not fully up to the guaranteed pressure?

A. Yes, sir; but it is under very different circumstances. Where one length of hose in twenty bursts, and where every length that is tried bursts, makes a very material difference.

Re-direct examination:

Q. Was not there a contract at one time, or some agreement between the city of Chicago and Gates & Co., of Lowell, to do the repairing for the city generally?

(Objected to.)

Q. Didn't the board find any difficulty in finding any person in this city competent to repair leather hose?

A. They have found great difficulty.

Q. What difficulty have they found?

A. I don't know, because I am not practically conversant with the details of this sort of thing; I only know this, that they can't find men that are experienced in that line of work—very difficult.

Q. Have you ever been obliged to send to Boston to have their hose repaired?

A. That I can't say; I know that they have been unable to find but one man in this town that could do it, and he was, I think he was,
249 in the fire department.

Q. Who was that?

A. Mr. Sweeney, I think is the name.

Q. Is he in the fire department?

A. Yes, sir.

Q. Isn't there a rule that members of the fire department shall not have city contracts?

A. Yes, sir; and that is the objection to his doing the work; because it was inconsistent.

Q. You say he is the only man in town that can do it?

A. He is the only man that they have been able to find, so far as I have any knowledge of the subject; there may be others, but I have not heard of them; this firm had to send to Boston to have men come on expressly to do the work.

By Mr. Adams:

This hose that Gates & Sons were allowed the privilege to repair to make it come up to the contract, did they repair it here or in Lowell, Massachusetts?

A. Here; for they sent on a man expressly to do it, that kind of work, after they made the arrangement for repairing that kind of hose generally.

By Mr. Davis:

Did you state that Gates was allowed the privilege of repairing this hose to make it come up to his contract?

A. No, sir.

250 Q. The counsel put the words in your mouth. Did you say any such thing?

A. I didn't mean to be so understood.

Q. What do you mean to be understood as saying?

A. This is the fact about it—I don't know as I express myself distinctly—that they repaired that along with other hose which they repaired for the city, and that which had been burst in testing; it was for other hose here. We didn't pay them.

Q. You also stated, I understood you, the hose was sent there because there was no person competent to do it in Chicago?

A. That is it.

By Mr. Adams:

You paid for the hose after it was perfected; didn't you—Gates' hose?

A. After it was repaired and tested, when it stood the 200 pounds pressure. I guess in the whole lot there were four or five pieces that failed.

By Mr. Davis:

About how many feet of hose?

A. 13,000 feet.

Q. How many pieces would there be in the whole 13,000 feet?

A. About fifty feet in the hose.

By a juror:

I thought there was only furnished 10,000 feet?

A. Perhaps his was the 13,000 feet; I don't remember now—13,000 feet, less the amount we had got from Greer.

Q. What time was the contract with Gates?

251 A. I couldn't tell without referring to the minutes.

Q. How much time did he have?

(Objected to.)

By Mr. Davis:

How many pieces would there be, supposing there was 10,000 that the contract called for with Gates?

A. About twenty pieces.

Q. Twenty?

A. Two hundred.

Q. Out of those two hundred, how many did you say were repaired?

A. About five or six; it was something near that proportion.

By Mr. Adams:

You mean to say, you tested every fifty-foot section?

A. Every section in each shipment as it came along that I witnessed, we took each length of the entire shipment and subjected that to the test of either a steam-engine or hand-pump.

Q. You mean to say then every foot of the whole ten thousand feet was actually tested?

A. I don't say that, because I didn't see them all tested, but every one that I saw tested.

Q. How many lengths did you actually see tested of Gates & Sons' hose?

A. I saw three shipments certainly.

Q. How many sections of hose, fifty-foot sections?

252 A. I can tell by referring.

Q. I want you to tell from memory?

A. My memory don't serve me always. I probably saw from sixty to eighty lengths.

Q. Do you know whether the last shipment of his hose was tested at all?

A. Only as reported by the commissioners.

Q. How much was in the last shipment; do you know that?

A. About 1,000 feet.

Q. How long did it take to fill Gates & Sons' order?

(Objected to; objection sustained.)

A. D. Titsworth, a witness called on behalf of the defendant, being duly sworn, was examined by Mr. Davis, and testified as follows:

Q. You are a member of the board of police commissioners?

A. Yes, sir.

Q. And were last year?

A. Yes, sir.

Q. I will ask you in reference to a statement made by Mr. Harris on the stand, if you told him that some friend of yours did have a contract? I presume you have heard the statement.

A. Yes, sir.

Q. How was it?

A. I don't recollect of any such conversation; I know after the board adjourned the contract was awarded. I went into the hall and
253 found Mr. Raster still there, and congratulated him upon his success in being the lowest bidder. I don't recollect any particular conversation in reference to my friend; that is the best of my recollection. I may, however, have made such a remark, that he beat my friend in a bid, or something of that kind; I don't know whether I did or not.

Q. Were you present at the testing of the hose?

A. No, sir.

Q. Were you sitting on the board at the time that action was taken in order to notify Mr. Greer it didn't come up to the contract?

A. No, sir; I was absent from the city before any hose arrived and during its being tested, until after the board abrogated the contract.

Q. Hadn't anything to do with the proceeding?

A. Not at all. I was absent during that entire time.

Q. Had you anything to do with the contract with Gates & Co.?

A. No, sir.

Q. Nothing at all?

A. No, sir; it was done before my return.

William James, a witness called on behalf of the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. You are a brother of the fire commissioners, are you?

A. Yes, sir.

254 Q. How long have you been a member of that board?

A. Since the last of April.

Q. By whom did you receive your appointment?

A. I was nominated by the board of underwriters, and appointed and confirmed by the city council.

Q. You represent the board of underwriters?

A. Yes, sir, partly; and partly the city.

Q. Appointed under the city charter?

A. Yes, sir; and have work to do prescribed in the city charter, or at least to assist in doing it.

Q. What is your province in the board of underwriters?
A. To assist in investigating the origin of fires occuring in the city.
Q. Have you anything to do with the apparatus for extinguishing fires?
A. The same as the other commissioners.
(Objected to because his duties are proscribed by the city charter.)
Q. Answer the question. Do you have anything to do with the apparatus for extinguishing fires, engine, hose, etc.?
A. In common with the other commissioners, yes, sir.
Q. Were you acting in the board in July of last year at the time when the proposals for 13,000 feet of hose were given?
A. Yes, sir.
Q. Were you acting in the board at the time that Mr. Raster came on in relation to that contract representing Greer?
255 A. Yes, sir.
Q. Did you have any interview with Mr. Raster about it?
A. In the presence of the board; no private interview.
Q. Do you know anything about Mr. Raster seeing this coupling?
A. I don't know that he saw it. I know it was left there for him; left at the time designated.
Q. You didn't see him actually take it?
A. No, sir.
Q. What is the size of this coupling?
A. It is described in the proposals; I don't know of my own knowledge.
Q. Were you present at the test of the hose when it arrived?
A. Yes, sir.
Q. How much came in the first instalment?
A. As to the number of feet, I couldn't tell you how much came.
Q. Do you know how much the city received in all?
A. I don't, only from the records.
Q. After you got up to a certain pressure the brakes worked hard?
A. They seemed to.
Q. Did you examine the hose as the engine was working up?
A. Yes, sir.
Q. Had any water been put into the hose before the water was ejected from the pump.
256 A. When the first hose was tested I couldn't say positively whether there was or not. We had many tests, and I know water was put in many of them; as to the first, I couldn't say positively whether or not.
Q. Did you examine the hose when the water went in?
A. Yes, sir. I looked along it.
Q. How did it come in; gradually or with a rush, or how?
A. It went in gradually.
Q. Describe it in your own language.
A. It went in gradually.
Q. Describe the test as fully as you can.
A. I took charge of watching the indications of the gauge in the test of that hose and was up near the pump generally, during the testing, because there only could I see the gauge. We tested three lengths of hose, I believe, and I think they burst at 180, 155, and 140, respectively. I believe these are the figures, but I could know exactly from my memorandum.
Q. Did you ever use that pump gauge afterwards in any experiments?

A. Yes, sir.
Q. With what result?
A. Upon other hose, do you mean?
Q. Yes, sir.
A. Yes, sir; I tested—watched the indications of the gauge upon some hose received from Gates, upon four lengths, sometime, I
257 think, in October. I have them also in my memorandum; four lengths, 200 pounds 205, 200, and 200 the four lengths.
Q. When was that test made?
A. I could tell you by consulting the memorandum.
Q. It was subsequent to the test of Greer's?
A. Oh, yes, sir; because Gates' order hadn't been given at the time of testing Greer's hose.
Q. Did you consider that Greer's hose came up to the contract?
A. No, sir.
Q. Did you consider it would answer the purpose?
(To this question the counsel for the plaintiff objected; which objection was sustained by the court; to which ruling of the court the counsel for the defendant then and there excepted.)
By Mr. DAVIS. I should like to ask the witness if that hose could be safely used at fires.
By the COURT. Do you examine him as an expert? Do you profess to be an expert, Capt. James?
A. No, sir; not in hose.
By Mr. DAVIS. We propose to show that it was of no value to the city.
(Objected to; objection sustained; to which ruling of the court defendant's counsel then and there excepted.)
258 A. We were very much in want of hose; and if the hose had been anything like an approach to the contract, we would have received it because we needed it.
Q. Was it serviceable as fire-hose?
A. We thought not.
Q. Was there any difference in the manner of applying to the test this hose Greer furnished and that which Gates furnished?
A. None that I know of. I am not an expert in that, but not so far as I could see.
Q. It was the same thing?
A. Yes, sir.
Q. Done in the same way?
A. Yes, sir.
Q. The brakes worked in the same way?
A. Yes, sir; the same way.
Q. Do you recollect any experiments made subsequent to this on a steam-engine with any other hose of Gates?
A. I don't remember of being present at any test except on the steam-engine.
Q. Were you present at Greer's?
A. Yes, sir.
Q. State the result.
A. I was present when the test was made, but I didn't watch the indications and gauge. I believe Mr. Brown did.
Q. Were you present when this took place?
A. Yes, sir.
259 Q. What was indicated by Mr. Brown at the pressure at which it burst?
(Objected to.)

Q. Do you recollect?

A. Can I refresh my memory from memoranda? These reports were made by Mr. Brown to the board.

By the COURT. Yes, sir.

A. I believe it was 100, 140, and 160, or thereabouts.

Q. The average of them?

A. I haven't averaged it. That is, to the best of my recollection, the figures. There was another test after that at the time suggested; the hose we had tested had burst, and I knew, at least believed, from what I had heard from experts, that that hose next the engine was subjected to a more severe test than that at a greater distance from it. I suggested we give Mr. Greer's hose another chance by putting a length, that is, 50 feet, of combination hose next to the engine, and I remember what that length burst at—that was the length next to the combination. It burst at 175. These were all the tests I was present at of the Greer hose.

Q. Then I understand you from what you have said that Gates' and Greer's hose that you saw tested stood a pressure of 200 pounds?

A. No, sir; not any of it.

Q. Not one single piece?

A. Not one single piece.

Q. Did you consider the test a fair and impartial one?

260 A. I did, as far as I was capable of judging.

Q. You intended to make a perfect and impartial test?

A. That was the design.

Q. Had no wish whatever?

(Objected to.)

Q. Was there any interest or motive in the board to induce them to break this contract?

A. None that I know or heard of.

Q. Was there so far as you were concerned?

A. No, sir; not any.

Q. Do you know anything about who does the repairing of hose for the board, and under what circumstances?

A. I am not conversant with that.

Q. You don't know who does the repairing?

A. No, sir; not of my own knowledge.

Q. Do you know where the repairs of the hose are done?

A. At present, do you mean?

Q. Yes, sir.

A. I have heard, but I don't know it.

Q. Don't you have anything to do with the bills presented at the board?

A. I know bills have been presented there and audited, and from these bills I can see the repairing has been done by Mr. Sweeney.

Q. Mr. Sweeney?

A. He is with Graves. I mean in his employ.

Q. Who is Mr. Graves?

261 A. A man with whom we have had a contract for the hose which is delivered here.

Q. Has he a place here in this town?

A. I believe he has.

Q. Has he now?

A. I think so.

Q. He received the hose here from you?

A. I presume so.

Q. Do you know anything about what was done with the hose of Gates & Co.—the first—what became of that?

A. I presume it was repaired by him; I don't know the fact.

Cross-examination by Mr. Adams:

Q. The tests of hose that you saw were on the steamer J. B. Rice, were they not?

A. Yes, sir; I believe so.

Q. Do you recollect when the hose of Gates & Co. was tested, whether any agent of theirs was present at any time?

A. I won't be positive, but I think Mr. Graves was present at some of the tests.

Q. Were you present at the test of Greer's hose by a hand-pump, and subsequent at the test of Gates & Co.'s hose by that pump?

A. Yes, sir.

Q. Do you know whether any change was made in the pump in the interval between those two times?

262 A. I don't know; there was one apparently.

Q. Have you heard anything about it? I don't ask you to state what you heard; but have you heard whether there was any change made in the pump?

A. No.

Q. At the second test of Greer's hose, Mr. Guthrie was present?

A. Yes, sir; I have seen Mr. Guthrie there frequently.

Q. He was not present the first time?

A. I think not; but still I am not positive. I have seen him there so many times.

Q. Have you, prior to this time, had any experience at all in the testing of leather fire-hose in any way?

A. No, sir.

Q. None whatever?

A. No, sir.

Q. I suppose you don't profess to be a judge of leather?

A. No, sir.

Q. Nor the quality and workmanship of leather fire-hose?

A. No, sir; I don't. I can only testify to the effect which came under my observation, which I have done.

Q. You were added, I believe, to the board of police commissioners in the interest of the board of underwriters in this city?

A. I think not. It was, I believe, at their request that the

263 legislature enacted that law; but my duties are not confined to them. They are for the interest of the city, and them also.

Q. It was on the motion of the board of underwriters?

A. Certainly. I was nominated by the board of underwriters, and confirmed by the common council.

Q. It was on their motion that act was passed by the legislature?

A. That is the only way they can be appointed.

Q. How many lengths of hose did you get of Gates & Co.'s hose that was tested?

A. I couldn't tell; a great many.

Q. Do you know how many lengths you saw tested?

A. I could only testify positively to those I myself watched the gauge—that I saw done. I have been present at the test of a great many, but kept no record of them however.

Q. Couldn't come near it?

A. No, sir.

Q. Do you know whether the last instalment in his contract was tested at all?

A. I believe so.

Q. Do you know of your own knowledge?

A. I couldn't tell positively they were. When notified to be present at the test of the hose, I was always present.

Q. Do you recollect if Mr. Greer came on after he received the telegraphic dispatch?

A. I remember of his being here?

264 Q. Do you recollect at that time of his offering to make all the hose good, if any were defective that he had sent on?

A. I remember him saying that he ought, he thought, to have the privilege of taking back his hose and making it good.

Q. Do you know what the board said with regard to that?

A. Well, the board could not give him the privilege.

Q. You have stated Mr. Graves had an office in this city. You don't mean to say that he has a shop?

A. It was the necessity that they were in for the hose. They couldn't grant it.

Q. You spoke of Graves having an office here?

A. I believe he has. I don't know the fact.

Q. You don't know whether he has an establishment for repairing hose in this city?

A. I believe he has some place for repairing hose. I have heard he ad.

Alexander McMonigal, a witness called for the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. What is your business?

A. Foreman of a steam fire-engine company, Long John.

Q. How long have you been connected with the fire department of this city?

A. About nineteen years.

265 Q. Are you acquainted with the quality and character of hose?

A. Some.

Q. Have you seen this hose that Mr. Greer delivered to the city in August last?

A. I did.

Q. Did you see any of it tested?

A. Yes, sir.

Q. When and where?

A. At the Long John engine-house. I think it was the 29th of August.

Q. How was it tested?

A. Put on a force-pump worked by men.

Q. What was the result?

A. The first length burst at 180 pounds, I think it was.

Q. Was there any length that stood a pressure of 200 pounds?

A. No, sir.

Q. What did you consider, from your experience in hose, the quality of that hose?

A. I considered it a poor quality of hose.

Q. Did you see the specifications that the city advertised have you seen them at the time of the proposals for this?

A. I saw the notice in the paper.

Q. Did it correspond with these proposals?

A. No, sir.

266 Q. The proposals called for a pressure of 200 pounds to the square inch. Did the hose you saw tested on the 29th of August correspond to that?

A. No, sir.

Q. Did you see it tested with a steam fire-engine?

A. Yes, sir.

Q. Was the result more or less favorable to the hose?

A. Less favorable; it burst at a low pressure.

Q. Have you seen it tested in any other way?

A. At fires.

Q. Have been used on your engine?

A. Yes, sir.

Q. What was the result?

A. Burst it.

Q. How many lengths did you attach to that engine at that time?

A. Fourteen lengths.

Q. Where was the fire?

A. On State street, between South Water and Lake.

Q. Do you know what pressure it burst under?

A. I couldn't tell; there was thirteen lengths of Greer's hose and one length of combination.

Q. You don't know at what pressure?

A. No, sir.

Q. Was the engine under any unusual head of steam?

A. No, sir; we considered she had not got a head of steam on.

Q. At the time it burst?

A. Yes, sir.

267 Q. What would be your observation about the head she had on?

A. I couldn't tell, as the engine never had a water-gauge on her.

Q. Did you consider the experiments made by the board fair experiments?

A. I did.

Q. Did you consider the hose valuable for fire uses in this city?

A. No, sir; I did not.

Q. Do you think it was serviceable for fires?

A. I don't, for this city.

Q. What would be the effect of undertaking to use it?

A. It would burst at every fire, and consequently would not be any better to use than old hose.

Q. Suppose a length of hose should burst at a fire, what is the result—what is likely to be the result?

A. Allowing the fire to spread and get more headway while we are getting another to replace it.

Q. Did you receive any order about the Gates hose or a portion of it that didn't stand the test?

A. Yes, sir.

Q. What did you do with it?

A. Turned it over to Mr. Graves as his agent.

Q. Turned it over for repairs?

(Objected to.)

Q. What were your orders and what did you do?

(Objected to.)

Q. What did you do with the hose?

By the COURT. What hose was that?

268 By Mr. DAVIS. The broken hose.

A. Coiled them up and turned them over.
Q. What do you mean by "turned them over?"
A. They were condemned and handed back to him.

Cross-examination by Mr. Adams:

Q. You say that the hose sent here by Greer didn't correspond with the specifications?
A. Yes, sir.
Q. You say you have seen the specifications?
A. I saw a notice of the hose advertisement in the papers.
Q. The specifications were contained in that advertisement?
A. Yes, sir.
Q. What were they?
A. The hose was about 2½-inch hose, to stand a pressure of two hundred pounds to the square inch.
Q. Anything else?
A. I don't know as I recollect; I couldn't go to work and recite the advertisement from memory; didn't pay enough attention to it.
Q. You say it didn't correspond with the specifications; now, I ask you what they were; you say that the hose were to stand 200 pounds, and should be 2½-inch hose?
A. Yes, sir.
Q. Do you recollect how they were to be tested?
269 A. I don't think there was anything said as to how they should be tested.
Q. Do you recollect when they were to be tested?
A. As soon as they came here, I suppose.
Q. Do you recollect?
A. They were tested shortly after coming here.
Q. I don't ask you when they were to be tested. When, by the advertisement, were they to be tested?
A. I don't know.
Q. Do you recollect whether there was anything said about the rivets of the hose in the advertisement?
A. I think there was, but I don't recollect what it was.
Q. Do you know whether the hose were 2½-inches or not?
A. I think they were.
Q. Will you swear they were?
A. I didn't measure them.
Q. Didn't measure them?
A. No, sir.
Q. In that particular, as to whether they were 2½-inches, you don't know whether they corresponded, do you?
A. No, sir.
Q. You say you have been nineteen years in the fire department?
A. Yes, sir.
Q. Have you ever been in the leather business?
A. Some.
Q. Where?
A. In Chicago.
270 Q. How long ago?
A. About ten years.
Q. Ever made any leather for fire-hose?
A. No, sir.
Q. Ever dealt in any?
A. No, sir.

Q. You consider yourself a judge of fire-hose leather?
A. I consider myself a judge of good leather.
Q. You consider yourself a judge of good leather?
A. Yes, sir.
Q. What is the best leather for fire-hose?
A. Oak-tanned.
Q. Was this oak-tanned or not?
A. It was; at least that was my impression of it, what I would say was oak-tanned leather.
Q. Were you ever present at any test before?
A. I don't recollect.
Q. Are you a mechanic?
A. Yes, sir.
Q. What?
A. Shoemaker.
Q. Do you know anything about machinery?
A. Only running with the engine.
Q. As foreman of the engine?
A. Yes, sir.
Q. What is the duty of foreman?
A. To take charge of the company and see that everything is carried on.
Q. Does he have anything to do with the engine?
271 A. The running of it.
Q. Yes, sir.
A. No, sir; the engineer runs the engine.
Q. You don't control that at all?
A. No, sir.
Q. Ever had anything to do with hand-pumps previous to this?
A. Yes, sir. With working a hand-engine.
Q. Working the brakes?
A. Yes, sir.
Q. Do you know anything about the machinery of a hand-pump; can you explain it?
A. I don't pretend to be a practical machinist.
Q. That is the first test of that sort you were ever present at?
A. Yes, sir.
Q. Did the Long John engine have a guage on it at the time the hose burst?
A. Steam-guage?
Q. Did it have any guage indicating what the water pressure was?
A. No, sir.
Q. You don't know what the water pressure was?
A. No, sir.
Q. Was that hose used at any other point except on State street, at your knowledge?
A. It was used at two fires on State street.
Q. Anywhere else to your knowledge?
272 A. I would'nt say for certain, but I think it was at one fire.
Q. At the time you were at the fires on State street, did you use any other hose with your engine but that?
A. Yes, sir.
Q. What did you use?
A. At one fire we used the combination, and Mr. Greer's leather, and a Boston cotton hose.
Q. Was that combination new hose at that time?
A. Yes, sir.

Q. Do you know anything about how the combination hose is when it is five or six months old?

A. Yes, sir; it is good.

Q. When did the first combination hose come to this city?

A. Sometime in July or August.

Q. You say you were present at this test of the hose on the steamer J. R. Rice?

A. Yes, sir.

Q. Where was the hose taken from when it was taken to be tested?

A. From the Long John engine-house.

Q. Was it wet at the engine-house?

A. No, sir.

Q. Was not wet?

A. No, sir.

Q. Were you present when any hose was tested that was supplied to the city by Gates & Co., of Lowell.

A. I was.

Q. Where was that taken from?

A. The Long John engine-house.

273 Q. Was it wet before it was taken out of the house?

A. Some, but some was not.

Q. Was that that was tested wet?

A. I say some was and some was not.

Q. You wet some of the hose of Gates & Co. at the engine-house before it was taken out to be tested?

A. Yes, sir.

Q. You did'nt wet any hose manufactured by Greer at the engine-house before it was taken out to be tested?

A. No, sir.

Q. Do you know what sort of a cap was on the end of the hose when Greer's hose was tested?

A. A part of the time a cap with a small hole in it, and part of the time a solid cap—a cap with no hole.

Q. What time did they put the cap on; the close cap?

A. After we had worked it with the cap with a hole in it, we put that off and put the other on.

Q. Up to what power did you work with the cap with a hole in it?

A. I don't know; didn't look at the guage.

Q. What sort of a cap did you use when you tested Gates' hose?

A. Part of them the same caps. They were all tested with the same caps.

Q. All tested with the same caps?

A. Yes, sir; only made a little alteration in one.

Q. What alteration was made?

274 A. We put a pet cock in the end of it to save the trouble of taking off the cap and putting it on.

Q. What is the effect of that pet cock?

A. To let the air out; as soon as we consider the air is out, we shut it off, and then it is a solid cap.

Q. Before that was on the air could not have been let out?

A. Not by using that cap, but we used one that did let the air out.

Q. These fires on State street, what size hose did you use with the Long John engine?

A. 1¾-inches.

Q. What is the character of that engine as to quality?

A. First-class; was at that time.

Q. You don't know really how much power was applied, there being no guage?

A. No, sir; can't tell.

Q. What size nozzle did you use on the Rice when you tested the Greer's hose?

A. $\frac{7}{8}$ of an inch.

Q. Did you ever hear of a guage on that engine being tested—the Rice?

A. I don't know as I ever did.

Q. You were in charge of that engine—foreman of the company?

A. Not of that engine.

Q. I would like to know what was the object of wetting the hose at the engine-house before you took it out to be tested?

275 A. It closes the pores, and, working it by hand, we could do it a great deal quicker than by putting on the pump, until such time as the pump had closed the pores.

Q. Didn't it make it stand the test better?

A. I don't consider it did.

Q. Will not hose, if it is wet before a certain given power is applied to it—water being the test used for the pressure—won't it stand more to wet it first, than if you test a new line of hose without wetting it at all?

A. No; because you wet it in testing it.

Q. Suppose you apply the power directly?

A. You have got to wet it any way.

Q. Wouldn't it be better to wet it first?

A. Nothing; only the ease of working by hand; you can do it quicker; you have got the pores of the leather all wet, and have saved so much working, that is all.

Q. You soaked that perfectly wet before it left the engine-house?

A. We run a stream of water through it for some little time.

Re-direct examination:

Q. What did you consider the defect of that hose—what was the matter with it?

A. Cut too far into the neck and belly of the skins.

Q. Did you observe the hose carefully?

A. I did; after it was tested.

276 Q. What was the result of your observation?

A. That was the result; I was satisfied they cut too far into the poor quality of the side; otherwise, I think a good portion of the leather was good.

Q. How was it about riveting?

A. I didn't pay particular attention to that.

Q. Were you present when the pump was working?

A. Yes, sir.

Q. How was the force applied; by jerks or steadily?

A. You couldn't jerk much upon it; it worked very heavily and required steady working.

Q. Was there any concussion on the column of water in the hose—any severe concussion thrown in that way?

A. I don't think there was.

Q. How was the pressure made?

A. Steady, right along.

Q. What would you understand by this addition here which Mr. Adams has alluded to, by the description, "2½-inch coupling," from ur experience?

A. 2½ on the inside.
Q. The internal diameter?
A. Yes, sir.
Q. What is the coupling used in the city?
A. 2½ inches.
Q. Would that be generally understood as the meaning?
A. That is generally understood as the meaning of 2½-inch.
277 Q. You say that the wetting of hose is only for the purpose of saving trouble?
A. Saving trouble.
Q. Otherwise you think it makes no difference?
A. No, sir; I don't think it makes any difference.
Q. Do I understand you to say there was none of Greer's hose that was wet?
A. No, sir.
Q. Was there any of it wet?
A. No, sir; not that I recollect of; I wet none of it until it went out to go on the pump.

By a juror:

How many lengths did you burst at the fires?
A. We used them at two fires; I am certain of two.
Q. How many lengths?
A. One length.
Q. How many had you on the engine?
A. Thirteen.

By Mr. Davis:

What pressure had you on the engine, should you judge, at that time?
A. I couldn't make a statement of that.

By a juror:

How high did you throw the water?
A. It was a four-story building.
Q. Did you use the other lengths?
A. Yes, sir.
Q. Any more burst at that fire?
A. No, sir.

By Mr. Davis:

Never had any such accident with Gates' hose?
278 A. None with me.

By Mr. Adams:

How much of that hose have you used of Gates & Co.'s?
A. 600 feet.

Levi Forest, a witness called on behalf of the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. What is your business?
A. Engineer.
Q. Where are you employed?
A. On the steamer Liberty, on the west side.
Q. Were you present at any test of Greer's hose?
A. No, sir.
Q. Ever use any of that hose?

A. Used one length of it.
Q. Where?
A. At a fire on State street.
Q. What was the result?
A. Burst it.
Q. When was that?
A. I couldn't say.
Q. The same fire Mr. McMonigal was speaking of?
A. Yes, sir.
Q. How many lengths had you on?
A. On the machine?
Q. Yes, sir.
279 A. About fourteen lengths.
Q. What pressure did it burst at?
A. 130 pounds, I think it was.
Q. Were you present at any test of this hose?
A. No, sir.
Q. Do you know of the hose ever having been used elsewhere at fires?
A. No, sir; only what I heard here.
Q. Did you examine the quality of the hose at all?
A. No, sir.
Q. How is it about Gates' hose? How does this compare with that?
(To this question the counsel for the plaintiff objected; which objection was sustained by the court; to which ruling of the court the counsel for the defendant then and there excepted.)
Q. What was your opinion of the quality of the hose from the use you made of it?
(Objected to.)
Q. How long have you been connected with the fire department?
A. Three years.
Q. Have you had any experience in the management of hose?
A. No, sir.
Q. You consider yourself a judge?
A. No, sir.
Q. Was all the hose attached to that engine at the time the length burst of Greer's hose, the new hose?
280 A. I couldn't tell, I am sure.
Q. Do you mean to say the fourteen lengths were all Greer's hose?
A. No, sir; I don't think they were; I don't think we got all Greer's hose until after that; I think we got two more after that fire, but I won't be positive.
Q. What hose had you on the engine at the time this length of hose burst that you speak of?
A. All kinds.
Q. Any combination hose?
A. No, sir.
Q. Cotton hose?
A. Yes, sir.
Q. You don't know how many lengths there were of this new hose that had just arrived on the engine?
A. No, sir.
Q. I understand you to say there were fourteen lengths of that hose? You say one length of the hose burst?

A. I say one length of the Philadelphia hose burst.
Q. That is what I want.
A. That is all the one there was on; we put that on and burst it in five minutes.
Q. You mean to say there were fourteen lengths in all?
A. Yes, sir; that is all I said. I burst one length. They put in one of these Philadelphia hose and in about five minutes we burst it.
Q. You think the pressure was about 130 pounds?
A. Yes, sir; couldn't be positive.
Q. Is that the same fire McMonigal——
281 Yes, sir.
By a juror: Whereabouts in the line of hose was this?
A. About the fourth lead from the engine.
Q. What do you understand by 2½-inch coupling?
A. Well, I understand that is coupling they use here in Chicago.
Q. Universally used?
A. Yes, sir.
Q. Is that the way it is described?
A. Yes, sir.

Cross-examination by Mr. Adams:
Q. What engine was you running at the fire?
A. The steamer Liberty.
Q. Where is your engine-house?
A. West Lake street, near Union Park.
Q. Did you commence firing up when you started from the engine-house?
A. No, sir.
Q. Where?
A. Somewhares on the road; we never fire up at the house.
Q. Before you got to the river?
A. Yes, sir.
Q. How many guages were there on the engine?
A. Two.
Q. What sort?
A. Boston guages.
282 Q. Were they spring guages or mercury guages?
A. Mercury.
Q. When you say the guage indicated 130 pounds, you speak of the steam-guage?
A. No, sir; I speak of the water-guage.
Q. Do you know when the guage was tested prior to that?
A. No, sir.
Q. How long had you been engineer on that engine?
A. Six months.
Q. Can you recollect at what time prior to that fire the engine was tested?
A. No, sir.
Q. Was it tested at any time prior to the time of the fire, and since you have been engineer on that engine, to your knowledge?
A. No, sir; she has not—no necessity for it.
Q. I am not asking you that, but whether it was tested.
A. No, sir; no necessity for testing the guages.
Q. Were you on the engine at the time the hose burst?
A. Yes, sir; stood along side of it.

Q. Do you know of any of the hose being used at the Lake street fire?

A. No, sir.

Q. Did you use that hose afterwards at a fire—any Philadelphia?

A. Not that I know of.

Q. Use any of it before that before.

283 A. No, sir; I didn't

Q. All the knowledge you have with regard to the quality of the hose you have acquired from the use of it as a foreman?

A. What time was that, do you recollect?

A. I think it was nearly half past 12 o'clock.

Q. I mean about the month.

A. I couldn't tell you; paid no attention to it.

Q. Was it in the summer time or fall?

A. Summer time.

Q. Was it in August?

A. I think not.

Q. Don't think it was in August?

A. I think it was later.

Q. In September then?

A. In September.

Q. In the night-time, you have said?

A. I think we went about half past twelve or one o'clock that night.

Q. Where were you on State street?

A. I was at the foot of State street, down at the river, near the State street bridge; the east side of the bridge.

Q. How close to the lamp?

A. I don't know; probably the lamp was on the bridge.

Q. Did you have any lamp on the engine?

A. Yes, sir.

Q. Where is that placed?

A. Between the guages, where we always carry them.

284 Q. You are not certain, as I understand it, about what the pressure was?

A. I don't think it was over 130 pounds.

Q. You know what I want to get at?

A. I can't tell you exactly whether it was an ounce over or under. It was as near there as you could get it; but the minute the hose burst, of course, the indicator drops. When we burst a length of hose we don't look to see how much the water pressure is; we look to the steam more than anything else.

Q. How did you happen to look at that time?

A. I don't know; it was nothing very uncommon for me to look.

Q. But as a general thing, you say you look at the steam-guage more?

A. If you see the steam-guage, you can look at the water pressure at the same time, because they are both together.

Q. Do you know what pressure the steam-guage indicated at that time?

A. Not over ninety pounds of steam.

Q. You think there was ninety pounds difference between the steam and water pressure?

A. Exactly.

Q. Have you had any conversation with regard to testing guages?

A. Some.

Q. What is your experience?

A. Locomotives; we test them once in a while.

Q. You test them yourself?

285 A. No; see them tested. There is a man at the round-house that has a machine to test them with.

Q. How can you know they are right?

A. Generally know how she blows off.

Q. After a guage has been in use for five or six or seven months on an engine, would you swear to the accuracy of the guage without testing it?

A. I don't know as I would want to swear to it. Wouldn't want to swear to a good many things you might be certain about yourself.

Q. What is the reason?

A. Because I wouldn't want to.

Q. It would be because you were not certain?

A. I don't know.

Q. If you knew it and were asked the question?

A. I might be positive in my own.

Q. Still, not want to answer the question?

A. I should consider it safe for me to be around it.

Re-direct examination:

Q. You say you would be positive in your own mind?

A. I should consider there was no danger.

Q. How would you know about it?

A. We know when she blows off that she don't blow off at one hundred pounds; we screw her up until she does. It is very seldom we carry one hundred pounds; sometimes they will run it.

Q. It is a matter of experience and observation?

A. Certainly.

286 F. W. Taplan, a witness called on behalf of the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. What is your occupation?

A. I am foreman of the steamer Liberty.

Q. Did you ever see this Philadelphia hose tested?

A. Yes, sir.

Q. Where and when?

A. At the Long John engine-house.

Q. How was the test made?

A. By a force-pump.

Q. How long have you been connected with the fire department?

A. About sixteen years.

Q. In what capacity?

A. Different grades all the time.

Q. You consider yourself a pretty good judge of hose?

A. Nothing extra; can tell when I have got a good lead of hose on.

Q. You have had some experience in the use of it?

A. Yes, sir; a good deal of it.

Q. State whether you consider the test made by the board at the Long John engine-house a fair one?

(Objected to, because the witness has not qualified himself to answer the question.)

Q. What was the first of these hose that you witnessed?

A. By a hand-pump, a force-pump.

Q. How was that force applied?

(Objected to.)

287 Q. How was it, steady or otherwise?

A. I considered it steady, as steady as we could get it.
Q. How was the water thrown into the hose?
A. Forced in.
Q. Was it forced in by jerks?
(Objected to.)
Q. State whether there was any concussion in the hose or not?
A. I should consider it went in as steady as you could get it in by any power.
Q. When they got up to a certain pressure they burst it?
What it was I don't know.
A. Did the hose bear a pressure of 200 pounds?
A. Not as I know of.
Q. Did you consider that method of testing a fair method?
A. Yes, sir.
Q. Was it impartially applied?
A. I considered it applied as good as we could get it.
Q. You considered it impartially applied?
A. Yes, sir.
Q. From your experience of hose and management of engines, and the use of hose at fires, and the force under which they are liable to burst, I want to know whether, in your judgment, the test made by the commissioners with the hand-pump was a fair and proper one?
A. Yes, sir.
(Objected to.)
288 Q. Did you see it tested in any way except by a hand-pump?
A. No, sir.
Q. Saw no test with a steam-engine?
A. No, sir.
Q. Have you ever used it yourself?
A. Yes, sir; used it on the engine, the steamer Liberty.
Q. With what success?
A. It burst.
Q. How much of it had you on?
A. Two lengths, 100 feet.
Q. How many of them burst?
A. One.
Q. At what pressure?
A. I believe——
By Mr. ADAMS. Don't answer if you don't know.
A. I don't know exactly.
Q. From your judgment what force was there brought to bear upon it, how high was that engine throwing?
A. I couldn't tell that.
Q. Do you recollect whether you had a full head of steam on?
A. I believe not; there was less than a hundred pounds, as near as I can find it.
Q. Have you had any other opportunities to see this hose and examine it?
A. I examined it after it was burst.
By the COURT. (Q.) What was the result of that examination?
289 A. I think it was a very thin piece of leather to put into hose where the rivets go through.
Q. Did you see anything?
A. See the leather?
Q. Yes, sir.
A. Yes, sir; I looked at it in particular.

Q. You did see the leather?
A. Yes, sir.
Q. From your judgment state what it was?
A. It was too thin I should judge.
By the COURT. How thin was it?
A. I didn't measure, so I couldn't tell exactly; it was thinner than any part I saw where it was burst. It did not stay, when it was put into the line, five minutes before it was burst—had not got fairly settled to work.
Q. What is your judgment of the quality of the hose from your observation?
A. I don't know as I could say about that.
Q. What do you think of the hose?
A. For use here?
Q. Yes, sir.
A. I don't think they are strong enough for fire service here.

By a Juror:

Q. This piece of leather that you put in, was it new; had it ever been used?
A. Not as I know of.
Q. You can tell whether it is new?
A. Never had been used on any steamer before to my knowledge.

By Mr. Adams:

Q. Do you know whether it has ever been wet before?
A. I don't know whether it was tested or not.
Q. You have never been in the leather business and are not a mechanic?
A. No, sir.

Robert A. Williams, a witness called on in behalf of the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. Are you connected with the fire department?
A. Yes, sir.
Q. In what capacity?
A. I am first assistant fire marshal at present.
Q. How long have you been so?
A. Since the first of last August.
Q. How long have you been connected with the fire department?
A. Since the first of last August.
Q. With the fire department?
A. Since the first of last August.
Q. Were you before?
A. Yes, sir.
Q. When?
A. Some years ago.
Q. How much experience have you had?
A. I have been in the department about thirteen years altogether.
Q. Have you ever seen this Philadelphia hose?
A. Yes, sir.
Q. Are you a judge of hose?
A. Well, I don't know; I have seen a good deal of hose used; I can tell when I see it, and give my opinion; I don't know whether my opinion is good for anything; some would think it was and others not.

Q. Have you seen this tested?
A. Yes, sir.
Q. Where did you see it tested?
A. Down here at the Long John engine-house.
Q. In how many ways?
A. I have seen it tested with a hand-pump and steam-engine.
Q. Were the tests fairly made in your judgment?

By the COURT. State how they were made.

Q. You may state about the application of the steam pressure, whether there was any turning of the throttle of the engine or anything of that sort?

A. I will tell you about this hose if you will give me a chance to make an explanation. I went there to see the hose tested; there was a hand-pump procured from Mr. Guthrie, with a government guage on it; we put on one section of hose, fifty feet—might be a few inches more or less, as the hose would measure. We burst some three lengths of the hose, of that we tested on the pump. Then we sent for a
301 steam fire-engine, the J. B. Rice, and burst some two sections on the engine, blowing through a ⅞-of-an-inch pipe or nozzle. I think there were 250 feet of hose from the engine to the pipe.

Q. When you applied this force with the steam-engine, how was it applied; how was the throttle managed?

A. I didn't notice that, there was such a crowd around there, and a man stood to take indications of the guage, so I didn't see it. I stood a little ways back and saw the hose burst and examined it after it was burst.

Q. What was the result of your examination?

A. My opinion was that it was owing a good deal to the make of the hose, that the leather was badly cut away with the rivets.

A. Did you consider it good hose? What did you consider the quality of the hose?

A. I shouldn't call it good hose, not as good as it was to be.
Q. How did it correspond with the specifications?
A. It was rather under, medium I should judge.
Q. Do you know anything further about the use of the hose?
A. Yes, sir; I have seen the hose tested at fires.
Q. What was the result of that?
A. Well, it burst.
Q. Did you consider it serviceable for fire purposes in Chicago?
A. I shouldn't think it would answer at all.

Q. Was there, as far as your observation extended, any unfair-
302 ness or partiality in the method of conducting the tests?

A. I don't consider it so; we tested it with a hand-pump; the capacity of the pump, the quantity of water it throws, was so small that it was a steady pressure, so that it brought the pressure more steady than if the pump had been larger.

Q. Do you know how much water this pump would inject into the hose, as compared with a steam-engine?

A. I couldn't say exactly; I know the capacity of the pump was so small it kept us a long time before we could pump it up to two hundred, which we done on some other hose afterwards.

Q. Was that owing to the amount of water, pumped there?

A. It was owing to the amount of water, and also to the pump; the pump was a little out of order, and it would let a little water pass by the plunger.

Q. Made harder work for the men?
A. It would make longer work.
Q. Did that have any effect on the accuracy of the test?
A. I don't think it would.
(Objected to.)
Q. I understand you to say it would not?
A. I don't think it would. It would keep the men working longer until we got it up to two hundred pounds.

303 Cross-examination by Mr. Adams:

Q. Had you had, prior to this test that you saw of the Philadelphia hose, any experience in testing hose?
A. Yes, sir.
Q. Where?
A. Some years ago when I run a hand-engine.
Q. Where?
A. In Chicago.
Q. How many years ago?
A. About 1854.
Q. Tell us how you made the test at that time.
A. I will tell you how we made the test at that time. We didn't have any guage; but we used to have review days twice a year, and the boys was always great on getting the best squirt, and in order to do that we would have to have good hose. We used to put on a pipe, and would put a cork large enough to fill the nozzle, because we had no caps to screw on the end of the hose. We would then pump on the engine with perhaps thirty-two men; and there was four and a half to five feet leverage from the piston-rod out to the brake. We would get the brakes full and pump it down until we couldn't push the brakes any more, and if the hose stood that we thought we could use it on review days.
Q. The hose that held out the longest you considered the best?
A. Yes, sir.
304 Q. Is that all the experience you had prior to this time?
A. That is the only way we had of testing hose.
Q. That is all the experience you had prior to this time?
A. Testing hose; yes, sir.
Q. Did you see any other test by the pump than Greer's hose?
A. I saw a test on other hose that we got afterwards.
Q. Was there any change made in the pump?
A. No, sir; not any.
Q. Do you know whether there was or not?
A. Well, I can't say I don't know there was, but I am quite positive there was not. We tried another pump we have, that was used for a boiler pump, a small pump, but we found the capacity of that was not large enough, so we couldn't test the hose, and had to send for Mr. Guthrie's.
Q. The Greer hose, was it taken out of the engine-house and brought to the place where it was tested as it came from the manufactory?
A. It was taken out of the engine-house on the sidewalk, I believe; the first length that was tested was inside of [of] the engine-house; we found where they bursted it wet in the engine-house.
Q. Was that hose wet before it was attached to the pump?
A. I think not.
Q. Subsequently, when you tried the hose of Gates & Co., was that wet in the engine-house?
A. Some of it was and some of it was not.

Q. Any change made in the cap on the end of the hose?

305 A. The cap put on the end of the hose—when we tried the Greer's hose we had no cap on the end of the hose, and started up the pump until we got it up to about 100, or 85, or something like that, and stopped and took off the cap and let out the air, and then would put the cap on again to pump it up to two hundred pounds, but it would always give on us before we got near there. The change made in the cap was to do away with the trouble of screwing off the cap every time—put a little faucet in the end so as to let the air out.

Q. You could leave the faucet open as soon as the air was out?

A. When the air was out we had it fastened and made it solid.

Q. When it was fully charged with water?

A. Yes, sir.

Q. In working a pump of this sort, can the parties working the pump, the men at the brakes, work it faster and more constantly while the power is less than after it becomes greater? How is that; at first you can handle it because there is not the resistance to work against?

A. When you have got your hose pressed nearly full, you have got to resist against that pressure, and it makes harder work.

Q. Do you know the size of the valve on that pump?

A. I couldn't say positively; I saw it was a very small valve.

Q. About a three-inch valve?

306 A. No, sir; it was not as large as that.

Q. Did you hear Mr. Guthrie testify it was a three-inch valve?

A. I don't think that valve was as large as that.

By Mr. DAVIS. He didn't state that; he said upon the new hose.

A. The opening from the pump where you used the hose was three inches.

Q. Do you know the size of the valve?

A. I can't say positively; didn't measure; I couldn't say.

Q. How large did you say?

A. I don't think the valve was over $1\frac{3}{4}$ inches.

Q. The one you saw tried with the steamer was a seven-eights nozzle?

A. Yes, sir.

Q. Before that trial, can you recollect whether the hose was wet at the engine-house, or was attached dry?

A. It was attached dry.

Q. To the engine?

A. Yes, sir.

Q. Did you see the other hose that you got afterwards tested on a steam fire-engine?

A. Yes, sir.

Q. Was that attached to the engine dry or wet?

A. I think that was attached dry. The reason why we wet the hose——

Q. I am not asking you that. Was the Gates'. hose attached to the engine dry or wet?

A. The hose we tried on the engine was attached dry.

Q. All of it?

307 A. Yes, sir.

Q. Both Gates' and Greer's hose?

A. Yes, sir.

Q. The same change was made in the cap in regard to the faucet?

A. There was no cap on it. The reason why we wet this hose; I will tell you the reason why we wet them, because they would swell; so it took longer to fill the hose, and if we wet them, we could attach them to the pump, and run it right up without stopping to let it soak.

Q. You saw the hose used at one fire?
A. Two fires.
Q. What time?
A. The first fire was on State street and Hubbard court, I think.
Q. What time was that?
A. It would be about the 24 or 25th of August.
Q. When was the second fire?
A. On the 30th of August, the morning of the 30th.

Re-direct examination:

Q. You mean by the morning of the 30th what time?
A. Between three and four o'clock, 3.45, or between the hours of three and four.
Q. Do you know how many lengths of this hose burst?
A. I am not positive how many at that fire. I know when the water stopped going through the J. B. Rice stream I went to see what the trouble was, and the boys told me they had burst some of Greer's hose.
Q. Do you know how it was at the fire on the 24th or 25th.
308 A. This time it was on the 30th.
Q. Do you know how it was on the 24th or 25th of August?
A. I don't remember so much about that, whether the hose burst up there or not, Greer's hose. They were using it there, but whether any of it burst or not I don't know.
Q. Did I understand you to say the object of removing the cap at the end of the hose is to let the air out?
A. Yes, sir.
Q. Was that done in the testing of the Philadelphia hose?
A. Yes, sir.
Q. The air was thoroughly let out before the cap was put on?
A. Yes, sir; then we turned it off and let some water run out, and then screwed the cap on again, and made the test.

By Mr. Adams:

How many engines used this hose?
A. I think there was three.
Q. No more?
A. No more.

Leo Myers, a witness called on behalf of the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. Are you connected with the fire department?
A. Yes, sir.
Q. In what capacity?
A. I am now foreman of the supply-house.
Q. How long have you been engaged in this kind of business?
309 A. I have been in the fire department since January, 1859.
Q. In this city all the while?
A. In this city.
Q. How long have you been a member of any fire department?
A. I joined No. 3, in 1849, in Chicago.
Q. You consider yourself a pretty good judge of hose?
A. Only by practical experience; that is all.
Q. Did you attend any test of the Philadelphia hose?
A. Yes, sir.
Q. What test did you witness?
A. Do you wish to have me make a detailed account of it?

Q. No, sir.
A. I tried the first that was tried.
Q. Were you present at the test with a hand-pump?
A. Yes, sir.
Q. And also with an engine?
A. The steamer J. B. Rice.
Q. I will ask you, from your observations of the tests, whether you consider that they were properly made—proper tests?
A. I should judge them to be very fair and impartial trials.
Q. If you were purchasing hose, what method of testing would you think proper to adopt; what would you adopt?
A. I don't believe I could find any more perfect test than what we made.
310 Q. Did you find the hose to correspond with the specifications?
A. No, sir.
Q. Do you know of the hose being used at any time for a fire?
A. Only once that I saw myself.
Q. Where was that?
A. On State street.
Q. State to the jury what your opinion of the quality of this hose was from your examination of it?
A. The hose didn't come up to the expectations. The hose, that I tried and assisted in trying, didn't stand the required amount of pressure.
Q. Did you consider it serviceable in Chicago for fires?
A. Not such hose as we tried.
Q. Was the hose that you tried a fair sample of the whole?
A. I should judge it was.
Q. Did you see the whole of the Philadelphia hose that was delivered here?
A. I believe I saw thirty-three lengths.
Q. You would not think that hose which you inspected fit for use?
A. That which we tried?
Q. What was the trouble with it?
A. I know of none, except it wouldn't stand the ordinary pressure.
Q. I want you to tell what was the matter with the hose?

By the court:

Say what you think was the reason.
A. Deficiency in strength.
Q. Deficiency in the strength of the leather?
311 A. I should suppose so.

Cross-examination by Mr. Adams:

Q. Prior to this time when you saw Greer's hose tested by the hand-pump, had you any experience in the testing of leather fire-hose; and, if so, how long experience?
A. Well, I never tested fire-hose here in Chicago to my knowledge at a certain amount of pressure.
Q. Never tested before that to ascertain how much pressure it would stand?
A. Not that I am aware of.
Q. You have been in the fire department since 1849?
A. Yes, sir.
Q. In any other fire department prior to 1849?
A. No, sir.
Q. Prior to the time when Greer's hose was tested by the hand-pump,

you never saw any hose tested to ascertain how much pressure it would stand?

A. No, sir.

Q. Had you any knowledge at that time from experience or observation as to the manner in which fire-hose should be tested, for the purpose of ascertaining how much water pressure it would stand?

A. I have heretofore let out a lead of hose, perhaps a thousand feet.

Q. Had you prior to the time when you saw Greer's hose tested by the hand-pump any knowledge, acquired either by observation or experience, as to the manner in which leather fire-hose should be tested
312 in order to be fairly tested, & in order to ascertain how much water pressure it would stand?

A. Not the pounds per inch.

Q. Had not?

A. No, sir.

Q. Had no more experience in that regard than any other spectator who was present & observed it?

A. Not the pounds to an inch.

Q. How high at that time did you see the pressure applied the highest?

A. 180 pounds.

Q. When they got to 180, did the men at the breaks keep right on, or was there a stoppage in the operation of the pump?

A. There was quite a stoppage, because the hose burst.

Q. Wasn't there a stoppage before the hose burst?

A. No, sir.

Q. None at all?

A. None at all.

Q. At this time you say you had no more experience than any other spectator who was there present for the purpose of ascertaining the pressure to the square inch?

A. Exactly.

Q. At what time was the close cap put on the hose?

A. It was put on the first length that was tested.

Q. The first time it was tried?

A. Yes, sir.

Q. Was it put on before the trial commenced, or after the trial commenced?

313 A. I don't exactly understand your question.

Q. I understand the commencement of the trial to be this: The commencement of operating the pump for the purpose of pressing the water into the hose. Was the cap put on before that time or after?

A. Before that time.

Q. Then before any water was pressed into the hose at all, the water-tight cap was put on?

A. Understand, the first length that was tried, which the board of commissioners and which the marshal was not present, I tried it myself, in the Long John engine-house, to see everything was in working order.

Q. This trial was in the Long John engine-house?

A. That is, one length of hose.

Q. Have you testified as to the result of that trial?

A. Yes, sir.

Q. Did you put the cap on then before any water was put into the hose?

A. Exactly.

Q. How was it at the second trial?

A. The second trial we took the hose outside the engine-house and went to work, and burst a length in the house and wet the house by the squirting of the hose, and then the gentlemen came over constituting the committee, and we tried it on the sidewalk outside. We had first to put a cap on to get up to a certain pressure.

Q. What sort of a cap?

A. A tight cap; then took the cap off and let all the water run
314 out; perfectly saturated the hose with water; then the cap was put on again, and we would work it up to the highest pressure the hose would stand.

Q. Was there a faucet on the cap at that time?

A. Not at that time.

Q. When did you put the faucet on?

A. There was a cap with a small hole in it, but no faucet at that time.

Q. You changed the cap; the tight cap had the faucet on afterward, did it not, when you tried Gates' hose subsequently?

A. I assisted in trying three lengths of it.

Q. Wasn't there a tight cap?

A. I believe it had a cap.

Q. On the close-fitting cap there was no faucet; that you put on Greer's?

A. Yes, sir.

Q. On the close-fitting cap that you put on Gates' hose, there was a faucet?

A. I believe there was. That wouldn't make any difference whether it was a tight one or not.

Q. Do you know how many lengths of Gates' hose you tried?

A. I assisted in trying three.

Q. Do you know of any more being tried?

A. I don't know of them; I believe they were tried.

Q. How many burst at the time you assisted?

A. They all stood the pressure.

Q. All of them?

315 A. Yes, sir.

Q. How did you try them?

A. On a force-pump.

Q. Who observed the guage, did you?

A. I stood at the guage once, when they were trying one length.

Q. Whose was that?

A. That was Gates'.

Q. Did you stand at the guage when they tried Greer's?

A. Yes, sir; once or twice.

Q. That faucet is what you call a pet cock, isn't it?

A. It has a great many different names.

Q. Isn't that what you firemen call it?

A. If it is applicable to a steam-engine, we would call it a pet cock. I don't know what you would call it to hose.

Q. What size nozzle do you generally use at fires with first-class steam-engines?

A. From an inch and a quarter to 1⅜.

Q. Ever use a nozzle as small as ⅞?

A. We do sometimes, when we want to force a large body of water.

Q. Have you ever done it?

A. I have seen an inch nozzle?

Q. I asked you about ⅞?

A. Yes, sir; I have seen ⅞.

Q. In this city?
A. Yes, sir.
316 Q. On one of the first-class steam fire-engines at a fire?
A. Yes, sir; have for a short space of time, until we got up steam to raise it.
Q. On one lead of hose—one section?
A. One length?
Q. That is what I mean.
A. I couldn't exactly say as to one length.
Q. That is what I want to know?
A. When we first make the attachment to a hydrant, if the fire is any great distance from the engine, we run the water right through the pumps—put on what we call a block stream that will force the water 25 or 30 feet. We have to use a small nozzle then.
Q. What is the object?
A. We so arrange the pumps that we can force the water through, or the hydrant will.
Q. I am talking about when you have the steam up on the engine?
A. We take the small nozzle off, and substitute a large one.
Q. When you work an engine at its ordinary power, you never use, on a first-class engine, a ⅞-inch nozzle at a fire?
A. Yes, sir.
Q. From an inch and a quarter to an inch and a half?

By a juror:

You used this Philadelphia hose on State street—you didn't state how well it performed there?
317 A. Not further than the foreman of that company, at that time; I didn't take particular notice; I saw it laying in the street.

By Mr. Davis:

State what you know about that.
A. I believe the hose was brought there, and I saw it laying in the street, in use.
Q. Did it burst?
A. I couldn't tell as to that.

By Mr. Adams:

Are you a mechanic yourself?
A. Yes, sir.
Q. What is your trade?
A. I am an iron-moulder.
Q. Ever been engaged in the manufacture of leather fire-hose?
A. No, sir.
Q. Do you consider yourself a judge of leather?
A. No, sir.
Q. You can't tell one kind of leather from another? That is, leather of equal thickness, and dressed in the same way?
A. No; I don't presume I could.
Q. Never worked in leather fire-hose?
A. No, sir.
Q. All the experience you have in that regard is obtained from observation?
A. Practical fire experience.
Q. You are not an engineer, neither?
A. No, sir.

Q. You know nothing about machinery, theoretically and sci-
318 entifically?

A. No, sir, except so far as regards moulding and casting them.

By Mr. Davis:

Q. Do you know what was done with the hose that had been tested?

A. Of Greer's?

Q. Yes, sir.

A. It lay, I believe, in the armory.

Q. Any of that fit to use after that?

A. Hose that were busted?

Q. Yes, sir; those that were tried—that were tested. I ask you of any of Greer's hose that was tested.

A. No, sir.

Q. Was it ever used? Was it ever given out to the fire department?

A. I think not.

Q. Wasn't every length burst?

A. Every length I assisted in trying was burst.

Q. Then you know it was?

A. I am positive it was not used afterwards.

Q. It was all laid away?

A. Yes, sir.

Q. Do you know whether any of this hose was given out after the board concluded not to go on with the contract?

A. I don't know.

Q. You say that you saw this hose tested?

A. Yes, sir.

319 Q. I want to ask you if it would be possible, in an inch-and-a-quarter nozzle, to get up a pressure of 200 pounds on from one to three lengths of hose?

(Objected to.)

By the COURT. If he ever saw anything of the sort, he can state.

Q. Did you ever see it operated?

A. I have seen an engine work with an inch-and-a-quarter nozzle, with one section of hose at her full capacity.

Q. You can state what is the result of that observation.

A. I saw them get 200 pounds pressure through one section of hose through an inch-and-a-quarter nozzle.

Q. From your judgment and knowledge, do you think it is possible?

A. I don't know it is possible with our engines.

By Mr. Adams:

I want to ask you, if there is any difference to the possible capacity of an engine acting by pressure, whether you have one length of hose or forty.

A. I presume so.

Q. You think there is, do you?

A. Yes, sir.

U. P. Harris, a witness recalled on behalf of the defendant, was examined by Mr. Davis, and testified as follows:

Q. Please state as to whether if any of that hose was issued to the fire department after the 29th of August.

A. After the fire at State street?

Q. Yes, sir.

320 A. The hose was sent away and put in the armory, and it remains there still.

Q. Do you recollect the day that fire took place?

A. I think the morning of the 30th, the night of the 29th or the morning of the 30th.

Q. How much hose came to the hands of the city?

A. 1,650 feet.

By the court:

The advertisement here requires that the hose should stand a pressure of 200 pounds to the square inch. Prior to the issuing of this advertisement had there ever been any method of testing hose in this city?

A. There never was. The reason of this test was, that we had been shaved in hose the year before, and the city had suffered damage very much, both in fires and in the ordinary expense attending to put hose in repairs; we found it necessary to adopt measures, and I find that other people found it necessary also from the effect. That is a copy of the Boston advertisement, and other parties found it necessary from the sleight manner in which they got to make hose. The difficulty was, after it had been received, if it didn't come up to the contract, and we had used it, it left the argument whether we had used it right or not, and we could get no damages from them.

Q. I want to know whether the city had been in the habit of testing hose they purchased, or any hose which they had here, for the purpose of ascertaining whether it would stand a certain amount of pressure?

321 A. The way it has always been considered was this, for the chief engineer to examine the hose, and even get sample. I have had samples from the same establishment; sent and paid them for the samples. When Mr. Ward was comptroller, and Mr. Wentworth was mayor—during that administration I didn't purchase the hose on account of this same difficulty—the hose would not stand the hydrant pressure.

Charles E. Roberts, a witness called on behalf of the defendant, being duly sworn, was examined in chief by Mr. Davis, and testified as follows:

Q. What is your business?

A. I am by trade a machinist, and at present am engaged in manufacturing steam-guages.

Q. In whose employ?

A. J. P. Marsh & Co.—Chicago Steam-guage Manufacturing Company.

Q. Have you anything to do with the inspection of guages?

A. I inspect guages that are brought to me.

Q. Have you ever inspected the guage of the steamer J. B. Rice?

A. I have.

Q. When?

A. September 23d.

Q. What was the result of that inspection?

A. To the best of my recollection, the guage was about twelve pounds light.

322 Q. Have you any memorandum by which you recollect this?

A. No, sir; not more than the time. The date I tested it is the only thing I have.

Cross-examination by Mr. Adams:

Q. Twelve pounds light?

A. That is my recollection.

Q. How would it indicate the pressure then; would it indicate twelve pounds too light?
A. Twelve pounds more than there really was.
Q. On the 23d of September?
A. Yes, sir.
Q. How long have you been engaged in the manufacture of guages?
A. Two years next July, in this particular branch of business.
Q. How long have you been engaged as inspector?
A. The same length of time.
Q. Have you inspected many?
A. I do nothing else but work at steam-guages and test those that come in; some come in about every day.
Q. Was this brought to you to test?
A. It was.
Q. What sort of a guage?
A. An American guage.
Q. Was it a spring-guage?
A. A spring-guage.

323 Q. Do you know how long it had been off the engine before it was brought to you?
A. I do not.
Q. Don't you know where it had been?
A. No, sir.
Q. How do you know it was the guage of the steamer J. B. Rice?
A. That is what the men told me.
Q. You know of your own knowledge then nothing about it?
A. No, sir; only what has been told me.
Q. Ever see it on the steamer?
A. I have seen the steamer-guage on it.

By a juror:

Twelve pounds light—I don't understand.
A. The different between my test-guage and the guage brought.

By Mr. Davis:

You mean, for instance, if it indicated 180 pounds the real weight would be 168?
A. Yes, sir.
By Mr. ADAMS. I ask that the part of the testimony in relation to what the man told him, that it was the guage of the steamer J. B. Rice, be excluded.
By the COURT. That is not proper evidence.

The plaintiff further to sustain the issue upon his part introduced the following testimony:

324 F. C. Brown, a witness called on behalf of the plaintiff, being duly sworn, was examined in chief by Mr. Adams, and testified as follows:

Q. Where do you reside?
A. I live on the west side.
Q. How long have you resided in Chicago?
A. Between nine and ten years.
Q. What is your business?
A. At present my business is keeping books.
Q. Have you any experience as a machinest?
A. I have.

Q. Any knowledge derived from experience with regard to steam fire-engines, and pumps, and machinery of that character?

A. A general knowledge of machinery; I have no particular knowledge with regard to steam fire-engines, perhaps know as little about that as any other kind of machinery.

Q. Was you present at any time in this city since August last when leather fire-hose was tested in front of the Long John engine-hose by means of a hand-pump?

A. I don't know at what time; I saw some hose being tested there sometime last summer or fall; I don't recollect what time; I couldn't tell the date.

Q. Do you recollect whether it was subsequent or prior to last August?

A. No; I can't tell you; it was during the warm weather; I saw
325 some hose being tested there and handled over.

Q. With a pump?

A. Yes, sir; with an ordinary force-pump.

Q. I will ask you from your knowledge of steam fire-engines and the manner in which it is applied, and your knowledge of pumps such as this you saw there, hydraulic pumps such as are used for testing boilers, by which method, by an engine or a hand-pump, can water pressure be applied more gradually and continuously?

(Objected to.)

Q. You may state your knowledge and experience with regard to machinery.

A. I have had some thirty years' experience as a machinist, and that is all I can say with regard to my qualifications.

Q. Have you studied the principle of the hydraulic pump and steam fire-engines?

A. Yes, sir; I think I understand the force-pump pretty well; the steam fire-engine, I suppose, I know its general principles, but know nothing about its details, because I never have examined it.

Q. Do you understand the principle on which it operates?

A. I suppose I do—the general principles.

Q. Now, from what you know of the operation of the two machines, by which can water pressure be applied the more gradually and continuously in testing leather fire-hose?

326 A. I would like to say, that I think much would depend upon the size of the air-chambers in the hand-pump.

Q. Speak with reference to the pump you saw there?

A. I think a fire-engine would apply it more gradually and continuously, the ordinary fire-engine more moderately.

Q. Now, I ask you what would be the difference in effect upon the pressure upon a leather fire-hose from a hand-pump, for instance, between a test made where there was a close-fitting cap placed on the end of the hose, and a test where a nozzle was placed on the end of the hose for the escape of the water, what would be the effect on the hose, the same power being applied?

A. If the water was introduced steadily and gradually without any concussion, the impulse especially, I can't conceive there would be any difference.

Q. In which case would there most likely be concussion, in the case where there was a nozzle to flow out, and the case in which there would be a dead stop?

A. I should think it would be more likely to be concussion where there was no chance for the water to escape, because if the water was

escaping, it must of necessity—from the necessity of the case, there must be a more continuous pressure in order to get up the pressure.

Q. Take a pump that has got a valve, for instance, of an inch an three quarters, in moving the brakes of the pump for the purpose of applying the power, I will ask you whether there would be any
327 back action or not—any flowing-back of the water, and what would be the probable effect of it?

A. If the valves worked perfectly close and as perfectly as they ought to work, there would be a stoppage of the pressure, a slight stoppage; but there would be no back action. If the water forced in passed the valve when the pressure was removed, the moment the pressure ceased to be exerted the valve would close and stop. It would be in a state of perfect rest.

Q. How is it when the water is applied by a steam fire-engine, being properly managed? State whether there is any stoppage in that case.

A. There was not; I should judge from what I know of steam fire-engines, but I will explain further. If there is an air-chamber sufficiently large to the force-pump, so as to apply a continuous pressure, this valve never will close. I don't know how that pump was constructed; if the air-chamber is sufficiently large it operates as a cushion or spring, and forces it from the valve, and in that case the valve would not close.

Q. At this test, I will ask you with regard to the pump; did you see the indicator or guage?

A. Not closely; I stood by and saw the hand working on the face of the indicator.

Q. How did it work, showing a continuous pressure?

A. It vibrated, of course, very much.

Q. What did that great vibration of the indicator indicate?

A. It indicated an unsteady pressure, and that would be shown
328 more especially by the elasticity; the air in the air-chamber would be thrown back and forward by the tremulous motion. The air condensed, as that must be, would vibrate the hand of the indicator very much. The least vibration would have the effect of that, if it was a good one.

Q. It indicated an unsteady action?

A. Yes, sir; unstable, of course.

Cross-examination by Mr. Davis:

Q. What is the index you speak of connected with?

A. I supposed it is connected with where the pressure is applied; I don't know; I didn't examine the machine.

Q. There is a condensing cylinder?

A. The air-chamber, where the air is condensed to operate upon the water. All old hand fire-engines are made upon the same principle.

Q. The condensing chamber has a reservoir of force?

A. A reservoir of air.

Q. By the action of the brakes the air is compressed and the water goes away and passes through the valve, and then the valve closes?

A. Yes, sir.

Q. This tremelous motion is caused by the compressed air?

A. Yes, sir; the vibration of the hand.

Q. That would have no sort of relation to the status of the
329 water in the hose?

A. I apprehend if the water was forced in gradually, without any sort of variation at all, that this air would become condensed

gradually without any vibratory motion whatever; but the least, a very small variation in the power applied in the compressing of this atmosphere would produce a good deal of variation in the hand of the indicator.

Q. It would be next to a physical impossibility to get perfection in an indicator so there would be no movement?

A. It is a very difficult thing.

Q. Next to a physical impossibility?

A. I don't know it is impossible.

Q. Next to impossible?

A. I think it would be a very difficult thing in all mechanical manipulations.

Q. You don't recollect the exact time when this took place?

A. I do not.

Q. You think it was in the fall?

A. I think it was in warm weather, the latter part of summer or fall; I happened to be up there.

Q. Do you know whose hose it was?

A. I know nothing about that at all.

Q. How long did you stay there?

A. I was there probably ten or fifteen minutes; I saw one joint of hose burst; I noticed Mr. Harris got pretty wet.

Q. You was not informed whose hose it was?

330 A. I was not.

Q. On the hydraulic principle wouldn't a still column of water in a hose, when a certain amount of pressure was applied, be a fair way, and the best way, indeed, to test the strength of the hose?

A. A still column?

Q. Yes, sir.

A. A different pressure applied to a column, that depends upon how sudden it would be.

Q. Gradually?

A. If it was introduced very gradually, I apprehend a column of water in motion to be similar to any other body moving; the momentum would be similar in its effect to the steam if it was confined.

Q. Mr. Cheseboro, the city engineer, testified that, in his judgment, the power would be more gently and gradually applied by means of a hand-pump than by means of an engine.

A. It depends on how the hand-pump was made, in my opinion; I will explain: Suppose a hand-pump was made with a plunger 1¼ inches in diameter—I mean a force-pump, hydraulic pump; that plunger was operated very slowly, the more gradual the [the] power would be applied. It depends very much upon the size of the plunger. If you take a plunger 2½ feet in diameter it would force water very constantly, if it moved at all.

Q. You think one of those hose would not stand if it was attached to the steam-pumps at the water-works?

331 A. Not long.

Q. Did you notice with regard to the caps on the end of the hose?

A. No, sir.

Q. Didn't pay any attention?

A. I saw there was a cap on there that the water was prevented from going out.

Q. You didn't notice whether there was any faucet?

A. I suppose you mean what we generally call a pet cock?

Q. Yes, sir.

A. I didn't notice it.

Q. Can you state any better way to test hose than by means of pressure with a hand-pump?

A. If a hand-pump was made as it might be made, I can't conceive of any better. I should not think that was the best plan if my judgment was asked. I don't know as my judgment would be good in the matter.

By Mr. Adams:

You don't think that was the best plan; you mean the plan that you saw tried there?

A. Yes, sir.

Which was all the evidence offered by either of said parties.

Charge to the jury.

332 SAMUEL Y. GREER }
vs.
THE CITY OF CHICAGO. }

The first question to be determined is, what was the contract between these parties? The city issued an advertisement for the reception of sealed proposals to furnish thirteen thousand feet of double copper-riveted Philadelphia or Baltimore number one oak-tan leather hose for steam fire-engines, upon certain conditions. The pl'ff made a proposal in the terms set forth in his letter of the 22nd of July, 1867. By the terms of that letter, the hose was to be tested in a fair and impartial manner; to be made to stand two hundred pounds pressure to the square inch, and the hose to be finished by the 1st of September, 1867. With this letter before the board, in answer to the advertisement issued by them, the terms of the pl'ff were accepted. It is said by Mr. Brown, one of the commissioners, that this was the usual way in which contracts were made, and, if so, I think it is to be regretted that such a practice has grown up where interests so important are involved; because the true way for the protection of the interests of all parties is, when an advertisement is made for proposals, and they are presented and ac-

333 cepted, that a written contract should be entered into by the city with the party proposing, setting forth specifically the terms of the contract, so that each party may be bound by the terms therein set forth; because, in very many cases, as in this, it sometimes happens the terms of the advertisement and of the proposal are changed or modified. It is true that if the advertisement is clear and distinct, and if the proposals are also clear, and they are accepted in the terms in which they are made, simply and absolutely, that contains the contract between the parties. It will be seen by the terms stated, Mr. Greer agrees to furnish the hose by the first of September, 1867. Now, unless that was waived by the city, of course the pl'ff was bound by the contract. He was bound, in other words, to furnish the hose by the first of September, unless it was waived, or unless the city has rendered the delivery, or offer to deliver the hose within that time, an unnecessary act. Upon that point we have the testimony of several witnesses. Mr. Raster, representing the pl'ff, says, that when his proposition was accepted, he distinctly informed the board that the pl'ff could not furnish the hose by the first of September. The proposition, I believe, was accepted on the 27th of July, 1867, and there was only about a month between that time and the first of September, during which the contract was to run ac-

cording to its terms, and as he said they could only make about two thousand feet a week, of course they didn't have margin enough
334 to comply with the terms of the contract for thirteen thousand feet of hose. Something was said about their putting on more men, and being able to manufacture a larger amount of hose than two thousand feet a week; whether or not the time was waived by the city, whether, in other words, it was the understanding between the parties that the pl'ff should be limited absolutely to the first of September for the completion of the contract, or whether it was the understanding that he might have a longer time for the delivery of the hose, is a question of fact I leave to the jury; and what was the contract then is the first question to be found by the jury under all the facts and circumstances of the case, in these documents which we have before us and the oral testimony connected with them. Of course, you will understand, in relation to the terms and conditions of the contract, that if any terms contained in the writing were not to be insisted on they must have been waived by the party.

The next question is, who violated this contract, if one was made? Was it violated by the pl'ff or the defendant? If it was violated by the pl'ff, then the pl'ff cannot recover in this case; that is to say, inasmuch as, according to certain terms, there was a liability resting on the part of the city, that liability, of course, did not exist, and the pl'ff could not call upon the city to respond unless the terms were complied with. One of the conditions of the contract confessedly was, that the hose
335 was to be tested in a fair and impartial manner, and was to be made to stand a pressure of two hundred pounds to the square inch. The first observation that I have to make, in regard to this matter, is this: That there does not seem to have been any established standard, here in Chicago at the time this contract was entered into, by which hose was to be tested. It is conceded by the fire marshal that there hadn't been, prior to the making of this contract, any method which was understood and known by which fire-hose was to be tested to ascertain what amount of pressure it would stand, so that we have to take that as an important element, in order to understand what was the meaning of the parties when the expression was used, "To be tested in a fair and impartial manner." What did the pl'ff mean when he used this language? What did the defendant understand that he meant when accepting the proposal? That raises one of the questions which has been discussed very fully through the argument, namely, whether the test that was applied to the hose, on the arrival of some portion of it in Chicago, was, in the language of this proposition, a fair and impartial test? I think, under the circumstances of the case, it would have been better if the board, inasmuch as there was to be a test, had notified the pl'ff of the time and place in which the test was to be made, or that the pl'ff had notified the defendant that he would desire to know when the hose was to be tested. This would have been better,
336 and might, perhaps, have removed some of the difficulties which have existed in this case, because it is always better where there is something to be done, in which both parties are interested, and by which their rights are to be determined, that each one should know when that is to be done, in order that it might be seen that everything was done fairly & equitably. I refer to this simply as something that naturally springs out of the fact that there was no established mode of testing fire-hose in this city. If there had been, I think it would have been clear that the understanding between the parties was that the method of testing was that known and established in the city; but in-

asmuch as there was no such method known, then it would have been desirable that they should have had an understanding between each other when this test was to be made; but, at the same time, I don't say that the city was absolutely bound to notify the pl'ff, nor that the pl'ff was obliged to notify the city. The terms of the contract were that the hose was to stand such a pressure, and the important question is, was it constructed in such a way as to stand that pressure when made by a fair and impartial test? The question is to be determined in a great measure by the manner in which you shall regard the facts bearing on the test which was applied to the hose that was received in this city; you have heard the evidence upon that point from the witnesses
337 here, the experts and others. You have also had read to you the testimony of various witness, whose depositions have been taken in other States, and in looking at this testimony the question is, was this test fair and impartial? Was it applied in a way to do justice to the rights of all parties, the pl'ff as well as the def't? It is contended on the part of the pl'ff that the test applied was unfair, because there was a cap upon the hose in the one instance, and in the other that the diameter of the nozzle as that was applied was too small. Some of the witnesses, whose depositions have been taken from other States, have declared that the cap test is not a fair test; that the nozzle should not be less than one and an eighth inch or one and a quarter applied to the hose, and they have given their reasons. You have heard the testimony of the witnesses here who differ from these witnesses, and the reasons they have given why they think the cap test is a fair test, and why they think the application for a force-pump is a fair test.

Taking all the testimony together, it is for you to say whether this was, within the meaning of the contract, a fair and impartial test of the strength of this hose. You will bear in mind, of course, in connection with this, the testimony as to the test that is generally applied in other cities, as compared with what was applied here. And you will also have in mind the testimony bearing upon this point; that it could hardly
338 be expected that every foot of hose that might be made would stand such a pressure; that there might be some latent defects in the leather which in testing might not stand such a pressure. Of course, as I understand the testimony, if there should be a defect in some instances in that respect, that would not absolutely defeat the liability of the city. Because it would be fair that the contract should be understood in the manner in which men who are skilled in the business would understand it. And as I apprehend the testimony, it might well happen that in so large a quantity of hose as the pl'ff agreed to furnish, there might be occasionally a defect in the leather which would be unknown, and which no skill could entirely guard against. I think under such circumstances it is only fair that the party should have an opportunity to remedy the defect up to a certain limit. If you think there is such a deficiency in this respect, so many defects as to satisfy you the hose did not come up to the quality designated in the contract, then, of course, the party has not complied with the contract in that particular. I only refer to this by way of illustration, because it has appeared in evidence when the witnesses have been speaking of testing the hose which the city afterwards contracted to purchase of Gates, and received that that sometimes in parts failed in the testing.

You are competent to judge of this as well as the court, and I only mention it by way of illustration and not as binding you.

339 If this was a fair and impartial test, and the hose did not stand the test, then I do not think there is any liability on the part of

the defendant, because there was a failure on the part of the plaintiff to comply with his contract. There has been some evidence showing that a portion of the hose was taken and used in the fire on State street, and that while being so used some of it burst. Now, how far that may have an influence upon your judgment as to the quality of the hose is for you to say, taking all the facts connected with it into consideration. It is said the hose may have been tampered with. There is no evidence that it was. It is possible that it might have been, or the hose may have been injured in the street. It is to be regretted that the testimony in relation to the particular points at which the hose burst during both of these trials has not been more distinct, because if the hose had been examined at the points where it burst in each case, and the examination had been critical and particular, then we would have known with more precision than we now do what was the cause of the bursting. But the testimony, such as it is, you will take into consideration, and determine for yourselves how far it may have a bearing upon the question, whether the hose was manufactured according to the contract, or whether it burst in consequence of some defect that could not be observed. Of course, if the leather, upon inspection, was not of the quality that it
340 ought to have been; if there were too many lengths put in, more than there ought to be; if the leather was not properly cut, there was a violation of the contract on the part of the plaintiff, and if the bursting was in consequence of that, he must be held responsible for it.

Now, after this test on the 30th of August, the dispatch offered in evidence was sent to the plaintiff, and this dispatch, and the time it was sent, has a bearing upon the other question which I referred to when I was considering what the contract was, namely, whether the plaintiff was bound to deliver the hose by the 1st of September. Before the 1st of September had arrived, when, for aught they then knew, all the hose might have been on the way, and, possibly, might have arrived here by the first of September—I do not know there is any evidence to satisfy us that they knew that the hose was not on the way at the time they sent this despatch, and the whole hose—before the arrival of that day the board sent this despatch to the plaintiff, which has been read two or three times in your hearing, in which they say, "This hose does not stand the test," and tell him to send no more, and the reason they give why they repudiate the contract, as I have mentioned before during the progress of the trial, was not that the hose was not or could not be delivered within the time specified, but because it was not made
341 in conformity with the contract, namely, so as to stand the test of 200 pounds to the square inch, so, that after all, that is the main point in controversy, whether the hose was constructed in conformity with the contract, and the test applied a fair one.

Now, as having a bearing upon this, you will recollect the testimony of the witnesses, whose depositions have been taken, of the test at Philadelphia, that was applied to a portion of the hose that was manufactured and was ready to be shipped to Chicago, at the time that this despatch was received. Of course, if you are satisfied that that hose was manufactured of the same material, and in the same way as the hose that was sent here, and that the test applied there was a fair test, then that fact has an important bearing upon the question; namely, was the hose constructed in conformity with the contract?

The next question to be determined is, if you believe that there was a violation of the contract on the part of the defendant, what damages the plaintiff has sustained. That would be the value of the hose that was delivered here, the profit that he would have made upon the hose

under the contract, if he had been permitted to go on and complete it; and also any necessary damages growing out of the violation of the contract on the part of the defendant, namely, the refusal to receive the hose, as having an important bearing upon this. I think you
342 ought to take into consideration the testimony of Mr. Raster, when he was here in Chicago representing the plaintiff, and what he stated about the cost of the hose.

There is something a little singular, & which has not been very satisfactorily explained, in the testimony of Mr. Raster and the plaintiff, as to the actual cost and the expected cost, at the time the contract was entered into; according to the testimony of the witnesses, the plaintiff's bid was much lower than the others, and it was supposed that no money could be made by manufacturing the hose at $1 70 a foot; and the reason why the proposal was made was because, as it was said, the plaintiff desired to have an opportunity of making his manufacturing house known, and establishing its character and reputation here in Chicago and in the vacinity; and it was not expected that much would be made upon the contract in point of actual money. Of course, I do not mean that you are to disregard what Mr. Raster and the plaintiff may have said as to the actual cost. They have said that the actual cost was $1 50 per foot. I only refer to this as having a bearing upon their testimony, as to what the actual cost was, as showing that there was a very good margin between the contract price and the actual cost price given comparing the statements of the witnesses then, Mr. Raster particu-
343 larly, and their statements now. Of course, you are to take their statements now for what they may be worth, giving all due consideration to what they may have said as to the actual cost. Then there are the items which have been referred to by the counsel, of some materials which were left on hand, and which could not be used—except some of them, were sold as it is said—and the leather for constructing hose of a smaller kind, upon which there was a loss in cutting it up, and in the labor that was bestowed upon it. You will take all these facts into consideration and determine, if you shall think there has been a violation of the contract on the part of the defendant, what is the amount of actual damage the plaintiff has sustained.

As I have already stated, if the hose did not stand the test agreed on, the plaintiff cannot recover and the defendant has done what was necessary to be done, which was, as soon as it was ascertained that the hose was not made in accordance with the contract, to notify the plaintiff that it was not so made, and to say to him that no other hose need be furnished, and what was already furnished was at his disposal. That, I think, was all that the board were required to do, and having done that, they had properly discharged their duty and the city is relieved from responsibility.

344 There is one circumstance to which perhaps I ought to advert, and it is one that always weighs with a jury, and from the pressure of which it is difficult for a jury to relieve itself, namely, that there has been a very considerable amount of hose received, and some of it used, and so the plaintiff has lost something of value. The answer to this is, that the rights of the parties must be determined by the contract, and if the plaintiff has not complied with his contract, of course, no rights can grow out of the fact that the hose has been delivered here and a portion of it received; and, in connection with this, it is proper I should say that I think the board were not bound by the action of Mr. Harris, because it was unauthorized on his part, the taking of a portion of the hose and using it at a fire. The only reason that this fact has

been received as evidence is in consequence of the possible bearing it might have upon the quality of the hose.

By Mr. Adams:

It has been testified that a thousand feet were left in Philadelphia, that had been manufactured.

By the court:

I have spoken of it; that was a portion that was tested.

By Mr. Adams:

And that it is of no value in the market.

By the court:

345 It is said that is so. It is upon the supposition that the defendant has violated the contract, and the plaintiff has kept his. It is said that the size of the hose which he then had on hand was unsaleable and it could not be used. That, of course, is proper to be taken into consideration by the jury, although there is no special testimony as to the size of hose used in other places.

By Mr. Davis:

It has been shown that the same kind is used in Boston and New York.

By the court:

I think there was some evidence on that point, and I do not very well see but that the plaintiff could have disposed of this hose, provided it was of good quality. However, that is a question of fact to be found by the jury. If he has lost that in consequence of a breach of the contract on the part of the defendant, then they should answer in damages for that. The whole question, it seems to me, turns mainly on what the contract has been, and whether there has been a violation of the contract and by whom.

I think the real point in issue must mainly turn in the view the jury shall take of the test that was applied here to the hose. If they think the test was a fair one then the city would not be responsible. If, on the other hand, it was unfair and the hose was manufactured in conformity with the contract, then the city would be responsible;

346 of the other point, as to the time of delivery, I have already spoken.

Whereupon, to so much of said charge as relates to the time within which said contract was to be performed, and also to so much as relates to the testing of said hose, and also to so much as relates to the failure to put said contract in writing, said defendant, by its counsel, then and there entered its exceptions.

And thereupon the jury having retired and consulted, afterwards when the jury had returned into court a verdict against said defendant, the said jury then and there in open court stated to the court, orally, in reply to a remark made by the court, that in estimating damages they had treated the thousand feet of hose manufactured in Philadelphia but not delivered to the defendant, as the property of the defendant.

And the said defendant then and there entered a motion to set aside said verdict and for new trial on the following grounds:

1. The court erred in excluding evidence on behalf of the defendant.
2. The verdict is contrary to the law of the case.
3. The verdict is contrary to the evidence.
4. The damages awarded are excessive.

5. The court erred in the law laid down in its charge to the jury.

347 Which said motion was afterwards, to wit, on March 17, A. D. 1868, overruled by the court and judgment entered on said verdict. Whereupon to said overruling, said motion, and entry of judgment on said verdict, said defendant by its counsel then and there excepted.

[NOTE BY THE JUDGE.—I allow the motion for new trial to stand because in consequence of what was stated by the jury in rendering the verdict I did not overrule it until the thousand feet of hose referred to were tendered to the defendant in Chicago.]

Exceptions allowed.

THOMAS DRUMMOND. [SEAL.]

H. DAVIS, *Def'ts Att'y.*
Filed March 17, 1868.

WM. H. BRADLEY, *Clerk.*

348 On this day, to wit, the 20th day of March, A. D. 1868, said defendant, by its attorney, filed in said clerk's office its appeal bond in said entitled cause; which said bond is in the words and figures following, to wit:

Bond.

Know all men by these presents that the city of Chicago is firmly held and bound unto Samuel Y. Greer in the full and just sum of twenty-five thousand dollars to be paid to the said Greer or to his certain attorneys, executors, administrators, or assigns; to which payment, well and truly to be made, it binds itself by these presents. In witness whereof, the said city of Chicago has caused this bond to be signed by the mayor and the comptroller of said city, and has also caused the same to be attested by the city clerk and by the corporate seal, and dated this 17th day of March, in the year of our Lord one thousand eight hundred and sixty-eight.

Whereas lately at a term of the circuit court of the United States in for the northeren district of Illinois, in a suit depending in which Samuel Y. Greer was plaintiff and the city of Chicago defendant, judgment was rendered against the said city of Chicago on said 17th day of March A. D., 1868, for the sum of eleven thousand and ninety-three dollars and fifty cents, and the city of Chicago having obtained a writ of

349 error and filed a copy thereof in the clerk's office of the said court to reverse the aforesaid judgment, and a citation directed to the said Samuel Y. Greer, citing and admonishing him to be and appear at a Supreme Court of the United States to be holden at Washington the first Monday of December next.

Now, the condition of the above obligation is such that if the said city of Chicago shall prosecute its appeal to effect, and answer all damages and costs if it fail to make its plea good, then the above obligation to be void; else to remain in full force and virtue.

J. B. RICE, *Mayor.*
[SEAL.] WALTER KIMBALL, *Comptroller.*
Attest: A. H. BODMAN, *City Clerk.*

Bond satisfactory. March 18, 1868.

BUELL & ADAMS.

Approved: THOMAS DRUMMOND.

Endorsed: Filed March 20th, 1868.

WM. H. BRADLEY, *Clk.*

350 NORTHERN DISTRICT OF ILLINOIS, *ss:*

I, William H. Bradley, clerk of the circuit court of the United States for said district, do hereby certify the above and foregoing to be a true, correct, and complete transcript of the record of all the proceedings had in said court in said entitled cause, wherein said Samuel Y. Greer is plaintiff, and the city of Chicago is defendant, as the same appears of record remaining in my custody.

In testimony whereof, I have hereunto set my hand and affixed the seal of said circuit court, at my office in the city of Chicago, in said district, this fifth day of December, A. D. eighteen hundred and sixty-eight, and of the independence of the United States the ninety-third year.

[SEAL.] WILLIAM H. BRADLEY, *Clerk.*

[Five-cent internal revenue stamp cancelled. "W. H. B., Dec'b'r 5, 1868."]

351 CIRCUIT COURT OF THE UNITED STATES,
Northern District of Illinois, ss:

The United States of America to the judges of the circuit court of the United States for the northern district of Illinois, greeting:

Because in the record and proceedings, as also in the rendition of a judgment in a plea which is in the said court before you, between Samuel Y. Greer, plaintiff, and the city of Chicago, defendant, a manifest error hath happened to the great damage of the said city of Chicago, as by its complaint appears; and it being fit that the error, if any there hath been, should be duly corrected, and full and speedy justice done to the party aforesaid in this behalf; you are hereby commanded, if judgment be therein given, that then, under your seal, distinctly and openly, you send the record and proceedings aforesaid, with all things concerning the same, to the Supreme Court of the United States, together with this writ, so that you have the same at Washington on the first Monday of December next, in the said Supreme Court to be then and there held; that the record and proceedings being inspected, the said Supreme

352 Court may cause further to be done therein to correct that error what of right and according to the law and custom of the United States should be done.

Witness the Hon. Salmon P. Chase, Chief Justice of the Supreme Court of the United States, this eighteenth day of March, in the year of our Lord one thousand eight hundred and sixty-eight, and of the independence of the United States the ninety-second year.

[SEAL.] WM. H. BRADLEY, *Clerk.*

353 The United States of America Samuel Y. Greer, greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States, to be holden at Washington on the first Monday of December next, pursuant to a writ of error prayed and granted from a judgement rendered in the circuit court of the United States in and for the northern district of Illinois, at the March term, A. D. 1868, of said court, in a certain cause wherein the city of Chicago was defendant, and you were plaintiff, to show cause, if any there be, why judgement rendered as aforesaid against said city of Chicago should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Witness the Honorable Thomas Drummond, judge of the circuit court of the United States in and for the northern district of Illinois, on this 20 day of March, A. D. 1868.

THOMAS DRUMMOND.

(Indorsed:) U. S. circuit court. City of Chicago ats. Sam'l Y. Greer. Citation.

CHICAGO, *March 20th*, 1868.

We hereby acknowledge service by copy of the within citation.

BUELL & ADAMS,
Plaintiff's Att'ys.

(Indorsed:) Circuit court U. S., northern dist. of Illinois. Samuel Y. Greer vs. the city of Chicago. Writ of error.

Supreme Court of the United States,

DECEMBER TERM, A. D. 1869.

THE CITY OF CHICAGO,
—*vs.*—
SAMUEL Y. GREER,

In Error to District Court
Northern District of Illinois.

Brief and Argument for Defendant.

W. C. GOUDY, for Defendant in Error.

Beach & Barnard, Steam Print, 122 & 124 S. Clark St.

Supreme Court of the United States,

DECEMBER TERM, A. D. 1869.

THE CITY OF CHICAGO,
—*vs.*—
SAMUEL Y. GREEN,
} In Error to District Court Northern District of Illinois.

(The references, when numerals only are used, are to the marginal pages of printed Record.)

Brief and Argument for Defendant.

May it please your Honors :

This was an action of assumpsit brought by the defendant in error against the plaintiff in error, to recover damages for a breach of contract in refusing to receive 13,000 feet of leather fire hose, for the manufacture and delivery of which by the defendant to the plaintiff a contract was made between the parties. The declaration contains three special counts upon the contract, and the money counts for goods sold and delivered (6-17.) The defendant below pleaded the general issue (18), a trial was had, which resulted in a verdict for the plaintiff below for the sum of $11,093.50 (19–21), and a motion for a new trial was made and overruled, and judgment entered on the verdict (22), from which judgment the city prosecutes a writ of error to this court.

The following facts appeared upon the trial of the cause: On the 15th day of July, 1867, the plaintiff in error published an advertisement inviting bids for the manufacture of 13,000 feet of leather fire hose, containing specifications as to the quality of material and manufacture, &c., and providing, among other things, that the hose should be *warranted to stand a pressure of* 200 *lbs. to the square inch.* This notice was signed by U. P. Harris, Fire Marshal of the city of Chicago (27, 162), and the Board of Police who have control of the fire department in Chicago (191), and have power to contract for fire hose for the city (161), caused the advertisement to be published. (191). The defendant in error, who is a hose manufacturer in Philadelphia, in response to this advertisement, made a bid in writing for the contract, of $1.70 per foot of hose, the hose to conform to the printed advertisement above referred to, "*to be tested in a fair and impartial manner, and to be made to stand* 200 *lbs. pressure to the square inch,*" &c. (26). This written bid or proposal Greer sent to Chicago by William Raster, his foreman (25), who had full power to act for Greer in the premises. (Print. 25, Orig. 60.) Raster arrived in Chicago, July 24, 1867, handed Greer's written bid to Mr. Titsworth (27), one of the Commissioners (191), and the bid was opened July 26th, and accepted July 27th, 1867. (27). After the contract was awarded to Greer, Raster, to wit, July 27th, started for Philadelphia, where he arrived July 29th, and Greer immediately commenced the manufacture of the hose. (29). By the 30th of August, 1867, he had manufactured and sent to the city of Chicago, directed to U. P. Harris, Fire Marshal, 2,150 feet of hose. (30, 43, 75). At that date he had also manufactured 1,000 feet more, which was packed, loaded on a dray, addressed to U. P. Harris, and on the way

to the depot in Philadelphia, at the time Greer received the telegram hereinafter mentioned. (43, 76). He had also procured and prepared the material for, and was engaged in the manufacture of the remainder of the hose contracted for. (46, 49, 77, 79). On the 30th of August Greer received from Chicago a telegram, as follows:

"To SAM'L. Y. GREER, 520 North street, Philadelphia.

"*Send no more hose. It does not nearly stand the con-*
"*tract test, and will not be accepted.* That which is here
"is subject to your order.

E. P. WARD, Secretary."

E. P. Ward was Secretary of the Board of Police Commissioners (242), and sent the telegram by direction of the President of the Board. (244, 202.) Greer, immediately upon receiving the telegram, started in person for Chicago, where he arrived on Sunday, Sept. 1, 1867, and on the next morning, Sept. 2nd, saw Messrs. Brown and James, members of the Board, and U. P. Harris, the Fire Marshal, and conversed with them on the subject. He asked Brown the reason why the Board had rejected the hose, and was informed by him that the reason was that it did not stand the test; that it would not bear the stipulated pressure; also that the Board had made a new contract with another party. (80). Greer informed Mr. Brown that he was willing to make the contract good, and would not ask the Board to receive a foot of the hose which would not stand a pressure of 200 lbs. to the square inch. In the afternoon of Sept. 2nd there was a meeting of the Board, and Greer appeared before them, and informed them that he declined to waive his rights under the contract, that he

desired a public trial in the city of Chicago, and asked that an engine might be placed at his disposal, for the purpose of testing the hose. The Board refused to allow him the use of an engine, and told him that they had entered into a contract with another party for 10,000 feet of hose, that there was no farther appropriation for hose, and that, therefore, they could not do anything with regard to his hose. (81, 203, 204). There is only one appropriation per year made by the city for hose (204), and the Board had exhausted this appropriation by contracting with Gates & Sons for 10,000 feet of hose, on the 30th or 31st of August, 1867, prior to the time for delivery by Greer, and were of opinion that even though Greer's hose should stand the test, they were powerless to carry out the contract with Greer, having exhausted the annual appropriation by their subsequent contract with Gates & Sons. (213).

E. P. Ward, Secretary of the Board, testifies, that the contract with Gates & Sons was for 13,000 feet, less the amount received from Greer. (250).

Three or four days after the meeting of the Board, at which Mr. Greer was refused an engine, the Commissioners, at the urgent request of Greer and his counsel, agreed to place an engine at his disposal, provided he would sign the following document, which, it will be seen, contains both an order on the Fire Marshal for an engine, and a stipulation between Greer and the Commissioners.

"At the request of S. Y. Greer, the Fire Marshal is hereby directed to place at the disposal of S. Y. Greer, any steam fire engine Mr. Greer may select in the fire department, for the purpose of trying hose in any manner Mr. Greer may see fit to adopt, the engine selected to be run and managed by the engineer and stoker ordinarily running the same; *and it is understood by Mr. Greer and the*

Police Commissioners that any tests so made by him are not official tests, and shall not bind or prejudice the rights of the city or said S. Y. Greer.

"T. B. BROWN,
"WM. JAMES,
Com's. of Board of Police."

Chicago, Sept. 6th, 1867.

Greer's object in desiring to test his hose publicly in the city of Chicago, was to demonstrate, by such public test, to the Commissioners and the plaintiff in error, that the hose would stand the required pressure of 200 lbs. to the square inch, and thus acquire, if possible, the benefit of his contract, but being of opinion that a test made by him under the foregoing stipulation, which he was requested to sign as a condition precedent to receiving the engine, would be entirely inconclusive, and a mere waste of time, he declined to make a test under such a stipulation. (82, 83.)

Before proceeding to a consideration of the proceedings upon the trial, the attention of the court is respectfully called to the following facts:

FIRST: By the strictest construction of the contract in question, Greer had the whole of the day, Sept. 2, 1867, in which to perform his contract. September 1st was Sunday, and when the time for the fulfilment of a contract in which no days of grace are allowed, falls on Sunday, performance on the next day is a legal compliance with the contract.

Salter v. *Burt*, 20 Wend. 305.
Brraet v. *Allen*, 1 Wilcox, 426.
Chitty on Cont. 627, *n.* 1.

SECONDLY: The Commissioners on the 30th of August,

1867, expressly notified Greer by telegram to send no more hose; that it did not stand the contract test, *and would not be accepted.*

THIRDLY: The Commissioners, on the 2nd September, 1867, before the time had elapsed for the performance of the contract by Greer, absolutely refused individually, and as a Board, to accept the hose, or allow a public test of it.

FOURTHLY: The Commissioners had, by their action, incapacitated themselves and the plaintiff in error to perform their part of the contract with Greer. The terms were cash upon the hose being tested satisfactorily. There is only one appropriation per year by the plaintiff in error for hose, and this appropriation the Commissioners had exhausted by contracting with Graves & Sons prior to the expiration of the time for the performance of Greer's contract, thus leaving no funds to pay Greer, even though his hose, "tested in a fair and impartial manner," should stand the required pressure.

FIFTHLY: The time of performance of the contract, to wit: September, 1st as limited in the advertised proposal for bids, was waived by the Board at the time Greer's bid was put in, and before it was accepted, (28, 29), and Mr. Brown, one of the Commissioners, expressly informed Greer, on September 2nd, that the Board was satisfied with his performance in regard to time, but rejected the hose on account of its not coming up to the test. (80.)

Under these circumstances, the defendant in error had, without any farther steps on his part toward performance of the contract, an immediate right of action.

Fox v. *Kitton*, 19 Ill. R. 519.

Hochster v. *DeLatour*, 20 Eng. Law and Eq. 157.

Cort v. *Ambergate, &c., R. Co.*, 6 Eng. Law and Eq. 230.

Upon the trial below, the defendant in error proved, by a great preponderance of evidence, that the hose manufactured and delivered by him to the plaintiff in error, conformed with the specifications contained in the printed advertisements, in quality, materials and workmanship, and that it was first class. (44-46, 75-76, 101-102, 122, 123, 135, 156.)

The chief issue, indeed the only issue, made upon the trial was, whether the hose would stand the required pressure of 200 lbs. to the square inch.

To maintain this issue upon his part, the defendant in error proved that, at the time he received the telegram to send no more hose, he had 1,000 feet of hose in Philadelphia, packed, directed to U. P. Harris, Fire Marshal of Chicago, loaded on a dray, and on the way to the depot in Philadelphia, to be forwarded to Chicago; that this hose was identical in quality, size, material and workmanship, with that previously forwarded to and received by the plaintiff in error; that it was subjected to two public tests, in the city of Philadelphia, in November and December, 1867, and at each of such tests sustained without injury a pressure of more than 200 pounds per square inch. (50–52, 71, 84–86, 116–117, 125, 140–141, 148–150.)

The witnesses for defendant in error were scientific and practical men, some of them of long experience in testing hose, (113, 124) and all of them of some experience. The hose was tested by attaching it to a steam fire engine, with pipe and nozzle of one and one-eighth inch diameter. The engine used was a first-class Amoskeag Company engine, having two eighth inch cylinders, with twelve inch stroke, and two pumps, four and three-fourths inch, with same stroke as cylinders. To secure the utmost possible accuracy, the gauges of the steam engine used were in-

spected and tested prior to and at the time of the last test, December 4, 1867, by Edward Schmidt, an experienced machinist and manufacturer of steam gauges. (145–150.) All of the witnesses for defendant in error state that these tests were made in a proper manner, and were fair and impartial; and this is not contradicted by any of the witnesses on the other side. (*Vide* depositions, print. 41, 48.)

The plaintiff in error, to maintain the issue on its part, proved two tests in Chicago, prior to the rejection of the hose, with regard to which, the following:

First. The witnesses for plaintiff in error, who made the tests, were wholly inexperienced in testing leather fire hose, never having tested any prior to the alleged testing of Greer's hose—U. P. Harris, Fire Marshal (174–175); Thomas B. Brown, Police Commissioner (199, 217); William James, Police Commissioner (262); Robert A. Williams, Assistant Fire Marshal (302–303); Leo Myers (311–312.) Neither had the witnesses introduced as experts, who testified to the fairness or sufficiency of the tests applied by the city, any experience in testing hose—E. S. Chesborough, City Engineer (186); D. C. Cregier, 236.

Secondly. The tests made by the city were not made "IN A FAIR AND IMPARTIAL MANNER," as the contract required.

The first test was made August 29th, 1867, by attaching the hose to a hydraulic pump, such as is used for testing water pipes, iron boilers, &c., which was considerably out of order at the time, and hard to work. No nozzle was used on the hose, but a close-fitting cap was placed on the end of it, entirely preventing the escape of the water forced in by the pump.

The second test was made by attaching the hose to an Amoskeag steam engine, the J. B. Rice, with a nozzle on the end of the hose, seven-eighths inch diameter. (168, 172, 180, 197, 199, 231, 235, 301.) The seven-eighth inch nozzle is a size never used with a first-class engine, such as the J. B. Rice, and the one used on this occasion was one which had been used with a hand engine, but never with any steam engine, and was procured especially to test Greer's hose. See testimony of U. P. Harris, Fire Marshal, (181.)

The test of the hose on the steam engine J. B. Rice, simply amounts to nothing, because the proof shows that the gauge was not tested prior to or at the time of the trial. (U. P. Harris, 179.) Plaintiff in error attempted to prove a test by the witness, Charles E. Roberts, (Print, 138,) but he could not identify the gauge tested by him with the one used on the Rice, and the court excluded his testimony. (323.) The gauge had been used on the engine, without inspection, all the time the engine had been running; and Edward Schmidt testifies that the running of an engine for a considerable length of time would have an injurious influence on the gauge, so that it would not register properly, and that a test made by such a gauge would not be reliable. (151.)

Again, the hose, before being tested by the city, was used at fires. (U. P. Harris, 168; Alexander McMonigal, 266-267; Levi Forest, 270-279; F. W. Taplan, 288; S. Y. Greer, 86.) And none of the gauges of the engines on which the hose was used at fires was tested to ascertain its accuracy. It is evident the hose may have been injured in being used at fires. (95.)

Some evidence was introduced by the city of tests made

in September, after the rejection of Greer's hose, of hose made by Graves & Sons, but this, of course, was irrelevant to the main question in issue.

The witnesses for the defendant in error, nearly all of of whom have had that degree of experience in testing hose which qualifies them as experts, testify unhesitatingly and without exception, that such tests as the plaintiff in error claims to have applied to the hose, are not fair and impartial, and give intelligently, and *in extenso*, reasons for their opinions. (John W. Reagan, 102-105; Joseph Parry, 172-178; George Kurtz, 124-130; Joseph Pigeon, 136-139; Edward Schmidt, 146-147.

DAMAGES.

The jury found the issues for the defendant in error, and assessed damages at $11,093.50. The damages were made up of the following items: At the time Greer received the telegram to send no more hose, he had manufactured, under the contract, 3,150 feet of hose; of this, he had forwarded to the city 2,150 feet, and was in the act of forwarding 1,000 feet more (30, 93, 76); the city took possession of 1,650 feet of the hose forwarded (208,) but declined to take from the depot the other 500 feet. (179.) The hose ordered by the city is of the size called 10½ inch hose, (referring, of course, to the width of the strip necessary to make the hose,) it required a superior quality of leather, and hides of a large size, and is unsaleable, except on special order. At the time Greer received the telegram to "send no more hose," he had cut down, for the manufacture of hose under his contract, 700 sides of leather, weighing 24 lbs. per side, at a cost of 55 cents per pound,

or $9,240 in all; this he had to cut down for the manufacture of 9 inch hose, which is saleable; but as much 9 inch hose, equally good and saleable, could have been manufactured from 700 sides of leather weighing 18 pounds per side, at a cost of 47 cents per pound, or $5,922 in all, making a loss in leather of $3,318. It required seven weeks of labor at a cost of $25 per week, or $175 in all, to cut the leather down from 10½ to 9 inch. The coupling required to be used was of a different kind from that in common use, and could not be used for marketable hose. Greer had purchased 250 pairs, at $4.75 per pair, to fill his contract, and when his hose was rejected had 197 pair left, the cost of which, at $4.75 per pair, is $935.75. These, for any use, except on the hose contracted for, were valuable only as old brass, which was worth 16 cents per pound, or one cent per ounce, 197 pairs weighing 5 pounds 9½ ounces, (the contract weight), or 17,031½ ounces in all, at one cent per ounce, is $170.31½, making a loss on coupling of $765.43; 3,150 feet of hose manufactured at $1.70 per foot, the contract price..... $5,355.00

Loss on leather.....	3,318.00
Labor in cutting down.....	175.00
Loss on coupling.....	765.43
Profit which would have accrued on hose manufactured, 13,000 feet less 3,150, 10,850 feet, at 20 cents per foot.....	2,170.00
Total.....	$11,783.43

(Testimony of Raster, 46-49; of Greer, 77-79.)

Of course, the title to the 1,000 feet of hose not forwarded would have vested in the plaintiff in error on pay-

ment of the judgment rendered, precisely as in the case of a judgment in trover, where the title to the chattels in respect to which the action is brought, rests in the defendant on payment of the judgment.

2 Kent's Com., 7 Ed. 388, 389, & note *f*.

But the Honorable Judge, before whom the cause was tried, out of abundant caution, reserved his ruling upon the motion for a new trial until the 1,000 feet were actually tendered to the plaintiff in error in Chicago. (Print. 139, orig. 347.)

EXCEPTIONS.

The plaintiff in error took, upon the trial, nine exceptions to the evidence, none of which, in the opinion of the counsel for defendant in error, was well taken, and which it is deemed unnecessary to notice, further than by reference to the record for the convenience of the Court. They will be found on the following pages of the printed and original record.

Print. 18, orig. 46; print. 33, orig. 87; print. 41, orig. 98; print. 81, orig. 209; print. 86, orig. 220; print. 97, orig. 244; print. 103, orig. 257; print. 113, orig. 279.

To the law, as charged by the court, the plaintiff in error excepted, as follows:

"To so much of said charge as relates to the time within which said contract was to be performed, and also to so much as relates to the testing of said hose, and also to so much as relates to the failure to put said contract in writing." (Print. 138, orig. 346.)

It is submitted, that the exception to the charge is not taken as required by rule four of this court; it is general and does not state distinctly the several matters of law in such charge "excepted to."

But conceding, for the sake of the argument, that it is taken in conformity with the rule, it is not well taken.

First. "So much of the charge as relates to the failure to put said contract in writing," is as follows:

"The city issued an advertisement for the reception of sealed proposals to furnish thirteen thousand feet of double copper-riveted, Philadelphia or Baltimore number one oak-tanned leather hose, for steam fire engines, upon certain conditions." The plaintiff made a proposal in the terms set forth in his letter of the 22d of July, 1867. By the terms of that letter, the hose was to be *tested in a fair and impartial manner*, to be made to stand a pressure of two hundred pounds to the square inch, and the hose to be finished by the 1st of September, 1867. With this letter before the Board, in answer to the advertisement issued by them, *the terms of the plaintiff were accepted.* It is said by Mr. Brown, one of the Commissioners, that was the usual way in which contracts were made, and, if so, I think it is to be regretted that such a practice has grown up when interests so important are involved; because, the true way for the protection of all parties is, when an advertisement is made for proposals, and they are presented and accepted, that a written contract should be entered into by the city with the party proposing, setting forth specifically the terms of the contract, so that each party may be bound by the terms therein set forth; because, in very many cases, as in this, it sometimes happens the terms of the advertisement and of the proposal are changed or modified. It is true, that *if*

the advertisement is clear and distinct, and if the proposals are also clear and they are accepted in the terms in which they are made, simply and absolutely, that contains the contract between the parties." (Print. 133.)

It will be observed by the court, that Greer's proposal varies in some respects from the advertisement for sealed proposals, in the following, among other things: The advertisement provides for "the hose to be delivered in Chicago, and tested here, by September 1st, 1867." The language of the proposal in response to this is: "Said hose be tested in a *a fair and impartial manner, and to be made to stand* 200 *pounds pressure to square inch*, said hose *to be delivered in Chicago depot*," &c. "Terms cash, after said hose is tested satisfactorily." (Print. 10.) The terms of the advertisement, therefore, were modified by the proposal and its acceptance, thus necessitating comparison and construction to ascertain what the contract really was. In this view, the remarks of the learned Judge were eminently proper.

Secondly. There is no error in that part of the charge relating to the time within which the contract was to be performed. (333, 334, 340.) The court instructed the jury, substantially, that Greer's agreement was to furnish the hose by the first of September, 1867, and that unless the delivery, at that time, was waived by the city, or unless the city had rendered the delivery, or offer to deliver, by that time, an unnecessary act, Greer was bound to furnish the hose by the first of September.

This instruction was proper and based on the evidence. At the time the Board were considering the several proposals made in response to the advertisement, and before

Greer's bid was accepted, the Board inquired of Raster, Greer's agent, whether the hose could be furnished by September 1, 1867; he distinctly informed them, that it could not; he was then asked how it could be furnished, and replied that he could furnish about 2,000 feet a week; and they immediately afterwards awarded the contract to Greer. (Print 10, 11; Orig. 27, 28.) And he gave to the Commissioners the reasons why the hose could not be delivered by September 1st. (Print. 22; Orig. 54.) The testimony of U. P. Harris on this point, is contradictory and inconsistent, but substantially supports that of Raster, (Print. 62; Orig. 166,) and the fact that Raster was so particularly interrogated on this point, shows that the Board doubted the possibility of manufacturing and delivering the hose at Chicago by Sept. 1st.

Under this head, attention is called to the special counts of the declaration. (Print. 3–6.) In the first count it is averred that the plaintiff was ready and willing, and offered to deliver, &c; in the second, that he was ready and willing to deliver; in the third, that, BUT FOR THE ABSOLUTE REFUSAL OF THE DEFENDANT, &C., HE WOULD HAVE BEEN READY TO FULFIL AND FAITHFULLY PERFORM, &C.

Thirdly. The greater part of the charge is that relating to the testing of the hose, as upon the trial this was the chief point of contest. It is submitted that this part of the charge is unexceptionable and pertinent to the evidence, and that it fairly left to the jury the question of fact, viz.: whether the hose was made to stand, when tested in a fair and impartial manner, a pressure of 200 pounds to the square inch.

It will be observed that the plaintiff in error does not

specify or point out any particular part of the charge which relates to the testing of the hose, in which it is claimed the court erred, but excepts, *generally*, to all this part of the charge. Now it is submitted that this is not a compliance with, but, on the contrary, is an attempted evasion of the rule of this court with regard to Bills of Exceptions, and that, in any event, unless the whole of such part of the charge thus generally excepted to is erroneous, the exception cannot be allowed under the rule.

No exception has been taken to that part of the charge which relates to damages, nor has any such exception been preserved in the record. One of the reasons assigned for a new trial was excessive damages, and to the overruling of the motion the plaintiff in error excepted, but it has been settled, by repeated decisions of this court, that the overruling of a motion for a new trial cannot be assigned as error.

The foregoing is submitted, not by way of refutation, because, up to the present time, December 15th, 1869, the plaintiff in error has filed neither Brief nor Argument, but for the two-fold purpose of facilitating the court in the investigation of the cause, and of showing from the whole record that substantial justice has been done.

In conclusion, it being apparent from the record, that there is no just ground for exception to the proceedings in the court below; that no sound or material exception has been taken; and, consequently, that the writ of error in this cause was "sued out merely for delay," the defendant in error prays that the judgment of the court below be

affirmed, and that "damages shall be accorded at the rate of *ten per centum per annum* on the amount of the judgment."

W. C. GOUDY,

For Defendant in Error.

ERRATA IN PRINTED RECORD.

Print. 33, orig. 85, for $\frac{1}{2}$ and $\frac{1}{8}$, read $1\frac{1}{2}$, $1\frac{1}{8}$.

Print. 81, on second line from top, for 1,650 read 500.